

Agency 5

**Kansas Department of Agriculture—
Division of Water Resources**

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Article 1.—DEFINITIONS

5-1-1. Definitions. As used in these regulations and the Kansas water appropriation act, and by the division of water resources in the administration of the Kansas water appropriation act, unless the context clearly requires otherwise, the following words and phrases shall have the meanings specified in this regulation. (a) “Above-baseflow stage” means streamflow that is in response to a significant runoff event during which period the water level elevation of the stream is greater than the elevation of the adjacent water table.

(b) “Acceptable quality surface water” means surface water that will not degrade the quality of the groundwater source into which it is discharged.

(c) “Application” means the formal document submitted on the form prescribed by the chief engineer for a permit to appropriate water for beneficial use and filed in the office of the chief engineer as provided by K.S.A. 82a-708a and 82a-709, and amendments thereto.

(d) “Approval of application” means a permit to proceed with construction of diversion works and the diversion and use of water in accordance with the terms and conditions set forth in the permit. Approval of application shall not constitute any permit that may be required by other state laws.

(e) “Aquifer storage” means the act of storing water in the unsaturated portion of an aquifer by artificial recharge for subsequent diversion and beneficial use.

(f) “Aquifer storage and recovery system” means the physical infrastructure that meets the following conditions:

(1) Is constructed and operated for artificial recharge, storage, and recovery of source water; and

(2) consists of apparatus for diversion, treatment, recharge, storage, extraction, and distribution.

(g) “Artificial recharge” means the use of source water to artificially replenish the water supply in an aquifer.

(h) “Authorized representative” means any staff employee designated by the chief engineer to perform duties and functions on behalf of the chief engineer.

(i) “Bank storage” means water absorbed by and temporarily stored in the banks and bed of a stream during above-baseflow stage.

(j) “Bank storage well” means a well used to divert or withdraw water from bank storage.

(k) “Basin storage area” means the portion of the aquifer’s unsaturated zone used for aquifer storage that has defined horizontal boundaries and is delimited by the highest and lowest index water level elevations.

(l) “Basin storage loss” means that portion of artificial recharge naturally flowing or discharging from the basin storage area.

(m) “Basin term permit” means a term permit to appropriate surface water from a stream within a specific drainage basin, or a portion of it, for a reasonable quantity of water, not to exceed a maximum of 100 acre-feet per calendar year, for use in either of the following:

(1) Drilling oil and gas wells; or

(2) construction projects within the specified basin.

(n) “Battery of wells” means two or more wells connected to a common pump by a manifold, or not more than four wells in the same local source of supply within a 300-foot-radius circle that are being operated by pumps not to exceed a total maximum rate of diversion of 800 gallons per minute and that supply water to a common distribution system.

(o) “Beneficial uses of water” are the following:

(1) Domestic uses;

(2) stockwatering;

(3) municipal uses;

(4) irrigation;

(5) industrial uses;

(6) recreational uses;

(7) waterpower;

(8) artificial recharge;

(9) hydraulic dredging;

(10) contamination remediation;

(11) dewatering;

(12) fire protection;

(13) thermal exchange; and

(14) sediment control in a reservoir.

(p) “Complete and accurate water use report” means a water use report that the water right owner has filed pursuant to K.S.A. 82a-732, and amendments thereto, that provided all of the information required on the form prescribed by the chief engineer, including the following:

(1) The quantity of water diverted during the calendar year;

(2) if the diversion of water was required to be metered during the calendar year for which the

report is being filed, the information required by K.A.R. 5-3-5e;

(3) if the water was used for irrigation purposes, the number of acres that were irrigated; and

(4) if the water was diverted from a sand and gravel pit operation, the size of the surface area of the pit in acres at the end of the calendar year for which the report was filed.

(q) "Completed substantially as shown on aerial photograph, topographic map, or plat," as used to define the authorized point of diversion, means within 300 feet of the location as shown on the aerial photograph, topographic map, or plat accompanying the application.

(r) "Confined Dakota aquifer system" means that portion of the Dakota aquifer system overlain by a confining layer resulting in the aquifer normally being under greater than atmospheric pressure.

(s) "Conjunctive use" means the safe-yield management and operation of an aquifer in coordination with a surface water system to enhance the use of the total water supply availability in accordance with the provisions of the water appropriation act.

(t) "Contamination remediation" means the diversion of water by a state agency, or under a written agreement or order of an appropriate state agency, for the purpose of improving the water quality.

(u) "Dakota aquifer system" shall include the Dakota formation, the Kiowa formation, the Cheyenne sandstone, and, where hydraulically connected, the Morrison formation.

(v) "Dakota aquifer system well" means a well or proposed well screened in whole or in part in the Dakota aquifer system.

(w) "Dam" means any artificial barrier, together with all appurtenant works, that does or could impound water.

(x) "Dewatering" means the removal of surface water or groundwater to achieve either of the following:

(1) Facilitate the construction of a building, pipeline, or other facility; or

(2) protect a building, levee, mining activity, or other facility.

(y) "Direct diversion of surface water" means the diversion of surface water directly from a stream by means of a pump, headgate, siphon, or similar installation, for application to beneficial use without storing it behind a dam, levee, or similar type of structure.

(z) "Diversion" means the act of bringing water under control by means of a well, pump, dam, or other device for delivery and distribution for the proposed use.

(aa) "Diversion works" means any well, pump, power unit, power source, dam, and any other devices necessary to bring water under control for delivery to a distribution system by which the water will be distributed to the proposed use and any other equipment required as a condition of the permit, including a check valve, water level measurement tube, meter, or other measuring device.

(bb) "Division" means the division of water resources of the Kansas department of agriculture.

(cc) "Dry hydrant" means a permanent, unpressurized intake pipe used to remove water from a pond, stream, reservoir, or other surface water supply by means of suction or vacuum supplied by a fire truck or other portable pumping device.

(dd) "Field inspection" means that for the purpose of issuing a certificate of appropriation pursuant to K.S.A. 82a-714 and amendments thereto, the chief engineer conducts a test of the rate of diversion of the diversion works under the normal and maximum conditions that the diversion works actually applied water to beneficial use during the perfection period. The chief engineer also collects all other information necessary to prepare a certificate, including the following:

(1) A description of the location and size of the place where water was actually applied to beneficial use during the perfection period in accordance with the terms, conditions, and limitations of the approval of application;

(2) information on the quantity and rate of water that was applied to the authorized use during the perfection period; and

(3) the actual location of the point or points of diversion from which water was diverted in accordance with the terms, conditions, and limitations of the approval of application.

(ee) "Fire protection" means the use of water for fire protection by a fire department for public protection in general.

(ff) "Fish farming" means the controlled cultivation and harvest of aquatic animals.

(gg) "Flow-straightening vanes" means vanes, or other device installed at the upstream throat of a measuring chamber for the purpose of aligning all velocity components of flow parallel with the flow in the measuring chamber at the water flow-meter sensor location.

(hh) “Full irrigation” means the application of water to crops during the growing season. Full irrigation shall include water for preirrigation.

(ii) “Groundwater” means water below the surface of the earth.

(jj) “Growing season” means the average frost-free period of the year.

(kk) “Household purposes” means the use of water by a person for cooking, cleaning, washing, bathing, human consumption, rest room facilities, fire protection, and other uses normally associated with the operation of a household.

(1) “Fire protection” shall be considered to be use of water for “household purposes” if either of the following conditions is met:

(A) Water is available from a “dry hydrant” that has been installed on a pond located within 1,000 feet of the residence.

(B) Water can be pumped from a well located within 1,000 feet of the residence for fire protection.

(2) Household purposes shall also include the replacement of the potential net evaporation from a domestic pond of up to $\frac{1}{2}$ acre in surface area if both of the following conditions are met:

(A) The pond is utilized for aesthetic purposes as an integral part of the landscaping of a house.

(B) Any portion of the pond is located within 300 feet of the closest edge of the house.

(3) The maximum reasonable annual quantity of groundwater that may be pumped into a pond to be withdrawn later for domestic fire protection shall not exceed 0.06 acre-feet plus the average annual potential net evaporation for a pond at that location in the state having a surface area of 0.2 of an acre.

(4) Household purposes shall also include the use of $1\frac{1}{2}$ acre-feet of water or less per calendar year by an industrial user, restaurant, hotel, motel, church, camp, correctional facility, educational institution, or similar entity for household purposes.

(ll) “Hydraulic dredging” means the removal of saturated aggregate from a stream channel, pit, or quarry by means of hydraulic suction and the pumping of the aggregate and water mixture as a slurry to a location where at least 95% of the water returns directly to the source of supply.

(mm) “Immediate vicinity,” as used in specifying the place of use for a water right in which the water is authorized to be used for municipal purposes, means within 2,640 feet of the corporate limits of the municipality, rural water district, or other entity.

(nn) “In compliance” means that a water flowmeter does not meet any of the criteria of K.A.R. 5-1-9 for being out of compliance.

(oo) “Index water level” means water level elevations established spatially throughout a basin storage area to be used to represent the maximum volume of a basin storage area, and storage available for recovery based upon accounting methodology, and conditions of the permit.

(pp) “Indirect use” means the total of the seepage loss and the average annual potential net evaporation loss from the surface of water originally impounded in a reservoir for beneficial use.

(qq) “Industrial use” means the use of water in connection with the manufacture, production, transport, or storage of products, or the use of water in connection with providing commercial services, including water used in connection with steam electric power plants, greenhouses, fish farms, poultry operations that are not incidental to the operation of a traditional farmstead pursuant to K.S.A. 82a-701(c) and amendments thereto, secondary and tertiary oil recovery, air conditioning, heat pumps, equipment cooling, and all uses of water associated with the removal of aggregate for commercial purposes except the following:

(1) The evaporation caused by exposing the groundwater table or increasing the surface area of a stream, lake, pit, or quarry by excavation or dredging, unless the evaporation has a substantially adverse impact on the area groundwater supply; and

(2) hydraulic dredging.

(rr) “Irrigation use” means the use of water for the following:

(1) The growing of crops;

(2) the watering of gardens, orchards, and lawns exceeding two acres in area; and

(3) the watering of golf courses, parks, cemeteries, athletic fields, racetrack grounds, and similar facilities.

(ss) “Measuring chamber” means a cylindrical chamber in which a water flowmeter is installed that is calibrated to match the measuring element of the water flowmeter and the nominal size of the pipe in which it is installed.

(tt) “Municipal use” means the various uses made of water delivered through a common distribution system operated by any of the following:

(1) A municipality;

(2) a rural water district;

(3) a water district;

(4) a public wholesale water supply district;

(5) any person or entity serving 10 or more hookups for residences or mobile homes; or

(6) any other similar entity distributing water to other water users for various purposes. Municipal use shall also include the use of water by restaurants, hotels, motels, churches, camps, correctional facilities, educational institutions, and similar entities using water that does not qualify as a domestic use.

(uu) "Nonvolatile memory" means the ability of a water flowmeter to retain the values stored in the mechanical or electronic memory if all power, including backup battery power, is removed.

(vv) "Normal operating range" means the range of flow rates for which the water flowmeter will meet the accuracy requirements of K.A.R. 5-1-4 (a), as certified by the water flowmeter manufacturer.

(ww) "Off-season irrigation" means the application of water to land for the purpose of storing moisture in the soil for future use by a crop that will not be irrigated during the growing season.

(xx) "Operator," as used in the regulation of sand and gravel pits, means any person who engages in mining sand or gravel, or both.

(yy) "Perennial stream" means a stream, or part of a stream, that normally flows during all of the calendar year, except during a drought.

(zz) "Perfect" means the actions taken by a water user to develop an approval of application into a water right. These actions shall consist of the completion of the diversion works and the actual application of water to the authorized beneficial use in accordance with the terms, conditions, and limitations of the approval of application.

(aaa) "Point of diversion" means the point at which water is diverted or withdrawn from a source of water supply.

(bbb) "Point of diversion of a dewatering site" means the geographic center of the area from which water is temporarily removed to lower the static water level or streamflow to allow one construction project or one excavation to take place. Each one-quarter linear mile of construction trench, or part thereof, shall have at least one point of diversion.

(ccc) "Point of diversion of a remediation site" means the geographic center of the area from which water is being removed to be treated or injected into a single disposal well.

(ddd) "Point of diversion for storage of surface water in a reservoir created by a dam" means the

point at which the longitudinal axis of the dam crosses the centerline of the stream impounded by the reservoir.

(eee) "Potential annual runoff" means the mean annual runoff for the watershed of the reservoir.

(fff) "Preirrigation" means the application of water to the land for a crop before planting to ensure adequate moisture for early plant growth.

(ggg) "Primary well" means a well for which a standby well is available.

(hhh) "Prior right" means a vested right, an appropriation right with earlier priority, or a permit with earlier priority than that of a subsequent appropriation right or permit.

(iii) "Proven reserves" means extractable sand and gravel deposits for which good estimates of the quantity and quality have been made by various means, including core drilling.

(jjj) "Recharge" means the natural infiltration of surface water or rainfall into an aquifer from its catchment area.

(kkk) "Recharge credit" means the quantity of water that is stored in the basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.

(lll) "Recreation storage" means the storage and use of water within the reservoir for recreational use as defined in this regulation. Water stored for recreation use in a reservoir shall be considered to be an indirect use of water.

(mmm) "Recreational use" means a use of water in accordance with a water right that provides entertainment, enjoyment, relaxation, and fish and wildlife benefits.

(nnn) "Rediversion of water" means releasing or withdrawing water that had been previously impounded behind a dam, levee, or similar type of structure, by use of a pump, outlet tube, headgate, or similar type of device, and the application of the water directly to beneficial use.

(ooo) "Register" means an integral or remote device that displays the quantity of water passing the water flowmeter sensor and is part of the water flowmeter.

(ppp) "Remediation site" means the geographic area where contamination is being removed from groundwater.

(qqq) "Reservoir" means the area upstream from a dam that contains, or will contain, impounded water.

(rrr) "Reservoir capacity" means the volume of

water that can be stored below the lower of either of the following:

(1) The elevation of the principal spillway tube; or

(2) the lowest uncontrolled spillway in the reservoir.

(sss) "Reservoir having a total water volume of less than 15 acre-feet," as used in K.S.A. 82a-728 and amendments thereto, means a reservoir having a capacity of 15 acre-feet or less as measured at the principal spillway tube or the lowest uncontrolled spillway, whichever is lower.

(ttt) "Safe yield" means the long-term sustainable yield of the source of supply, including hydraulically connected surface water or groundwater.

(uuu) "Sand and gravel pit operation" means a project that meets the following conditions:

(1) Excavates overburden for mining sand or gravel, or both, exposing the underlying groundwater table to evaporation; and

(2) has a perimeter equal to or greater than its depth.

(vvv) "Sediment control in a reservoir" means a beneficial use of water that meets both of the following criteria:

(1) The water is stored in a reservoir that has no other authorized type of beneficial use, except domestic use.

(2) The water is stored only in the part of the reservoir designed and constructed for the storage of sediment.

(www) "Source water" means water used for artificial recharge that meets the following conditions:

(1) Is available for appropriation for beneficial use;

(2) is above base-flow stage in the stream;

(3) is not needed to satisfy minimum desirable streamflow requirements; and

(4) will not degrade the ambient groundwater quality in the basin storage area.

(xxx) "Specialty crop" means a crop other than a normal Kansas field crop. This term shall include turf grass, trees, vegetables, ornamentals, and other similar crops.

(yyy) "Standby well" means a well that can withdraw water from the same source of supply as the primary well and that is used only when water is temporarily unavailable from the primary well or wells authorized to be used on the same place of use because of mechanical failure, maintenance,

or power failure. A standby well may also be used for fire protection or a similar type of emergency.

(zzz) "Static water level" means the depth below land surface at which the top of the groundwater is found when not affected by recent pumping.

(aaaa) (1) "Stockwatering" means the watering of livestock and other uses of water directly related to either of the following:

(A) The operation of a feedlot with the capacity to confine 1,000 or more head of cattle; or

(B) any other confined livestock operation or dairy that would divert 15 or more acre-feet of water per calendar year.

(2) Stockwatering shall not include the irrigation of feed grains or other crops.

(3) For the purposes of this subsection, a group of feedlots or other confined feeding operations shall be considered to be one feedlot or confined feeding operation if both of these conditions are met:

(A) There are common feeding or other physical facilities.

(B) The group of facilities is under common management.

(bbbb) "Straight pipe" means a straight length of pipe free of all internal obstructions, including size changes, valves, cooling coils, injection ports, sand or foreign material, and any other condition that would cause a disturbance of the internal velocity profile in the pipe. Internal obstructions shall not include properly designed, constructed, and installed straightening vanes and inspection ports.

(cccc) "Stream channel aquifer" means unconsolidated water-bearing deposits in river valleys, flood plains, and terraces that are separate and distinct from any other aquifer and capable of yielding water in sufficient quantities for beneficial use.

(dddd) "Surface water" means water in creeks, rivers, or other watercourses, and in reservoirs, lakes, and ponds.

(eeee) "Term permit" means a permit to appropriate water that is issued for a specified period of time and exceeds the criteria for a temporary permit specified in K.S.A. 82a-727, and amendments thereto, and K.A.R. 5-9-3 through K.A.R. 5-9-5. At the end of the specified time, or any authorized extension approved by the chief engineer, the term permit shall be automatically dismissed, and any priority it may have had shall be forfeited.

(ffff) “The production and return of saltwater in connection with the operation of oil and gas wells in accordance with the written approval granted therefor by the Kansas corporation commission pursuant to K.S.A. 55-901, and amendments thereto” means only that saltwater actually produced during the primary production of oil and gas wells and shall not include the following:

(1) Saltwater used in the drilling of an oil and gas well; and

(2) saltwater injected into an enhanced recovery injection well, unless that saltwater was produced in the primary production of the oil and gas well, separated from the oil and gas, and then subsequently reinjected.

(gggg) “Thermal exchange” means the use of water for climate control in a nondomestic building and in a manner that is essentially nonconsumptive to the source of supply.

(hhhh) “Totalizer” means the mechanical or electronic portion of the register that displays the total quantity of water that has passed the water flowmeter sensor.

(iiii) “Unconfined Dakota aquifer system” means that portion of the Dakota aquifer system not overlain by a confining layer in which the aquifer is in equilibrium with atmospheric pressure.

(jjjj) “Unconsolidated regional aquifer” means a body of mostly unconsolidated and heterogeneous water-bearing deposits that are hydraulically and geologically contiguous, and are capable of yielding water in sufficient quantities for beneficial use.

(kkkk) “Waste of water” means any act or omission that causes any of the following:

(1) The diversion or withdrawal of water from a source of supply that is not used or reapplied to a beneficial use on or in connection with the place of use authorized by a vested right, an appropriation right, or an approval of application for a permit to appropriate water for beneficial use;

(2) the unreasonable deterioration of the quality of water in any source of supply, thereby causing impairment of a person’s right to the use of water;

(3) the escaping and draining of water intended for irrigation use from the authorized place of use; or

(4) the application of water to an authorized beneficial use in excess of the needs for this use.

(llll) “Waterpower use” means the use of falling water for hydroelectric or hydromechanical power.

(mmmm) “Water balance” means the method

of determining the amount of water in storage in a basin storage area by accounting for inflow to, outflow from, and changes in storage in that basin storage area.

(nnnn) “Water flowmeter” means the combination of a flow-sensing device, measuring chamber, integral or remote display device or register, and any connecting parts required to make a working assemblage to measure, record, and allow determination of flow rate and total quantity of water flowing past the water flowmeter sensor.

(oooo) “Water storage device” means a reservoir, elevated water tank, pressurized water tank, including a bladder tank, or other container into which water is pumped and stored before beneficial use.

(pppp) “Water use correspondent” means a person designated in writing, on a form prescribed by the chief engineer, by one of the owners of a water right to file the water use reports required by K.S.A. 82a-732 and amendments thereto, on behalf of the owner or owners of that water right. (Authorized by and implementing K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978; amended May 1, 1980; amended May 1, 1981; amended May 1, 1983; amended May 1, 1986; amended Dec. 3, 1990; amended May 31, 1994; amended Sept. 22, 2000; amended Oct. 24, 2003; amended Oct. 31, 2008.)

5-1-2. Standby well. In order for a well to qualify as a standby well, all of the following requirements shall be met: (a) The well shall be maintained in operable condition and be capable of being hooked to a power source within a reasonable amount of time to allow the well to function effectively as a standby well.

(b) Both the primary well or wells and the standby well or wells shall be required to be metered by order of the chief engineer or as a condition of the water right or permit.

(c) The standby well shall be located close enough to the primary well so that both wells withdraw water from the same local source of supply. However, a standby well shall not be required to meet the well spacing requirements from the standby well to the primary well.

(d) The standby well shall be authorized to divert the same rate and quantity as the primary well or wells. A limitation clause shall be placed on any water right or permit authorizing a standby well or wells limiting the standby well to no more than the rate and quantity authorized for the primary

well or wells. With the limitation clause or clauses in effect, the standby well or wells shall not be counted in any safe yield, allowable appropriation, depletion or similar type of analysis.

(e) A primary well and a standby well shall not be operated at the same time, unless one of the wells is being operated for maintenance, testing, fire protection, or a similar reason. (Authorized by and implementing K.S.A. 82a-706a; effective May 31, 1994; amended Oct. 31, 2008.)

5-1-3. Permitting requirements of the Kansas water appropriation act. An individual engaged in the drilling of water well test holes, seismic test holes, stratigraphic test holes, observation wells, and water quality sampling wells, shall not be required to have an approval of application pursuant to the Kansas water appropriation act if water will not be diverted for beneficial use. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-701(f), 82a-703, 82a-705, and K.S.A. 1999 Supp. 82a-711; effective Sept. 22, 2000.)

5-1-4. Water flowmeter specifications. Each water flowmeter required by the chief engineer, or required pursuant to a regulation adopted by the chief engineer, on or after the effective date of this regulation shall meet the following minimum requirements:

(a)(1) The water flowmeter has been certified by the manufacturer to register neither less than 98 percent nor more than 102 percent of the actual volume of water passing the water flowmeter when installed according to the manufacturer's instructions. This requirement shall be met throughout the water flowmeter's normal operating range without further adjustment or calibration.

(2) The manufacturer has certified to the chief engineer that it has an effective quality assurance program, including wet testing a random sample of production line water flowmeters with water flowmeter test equipment. The minimum number of samples to be tested shall be determined using a confidence interval of 90 percent, an expected compliance of 95 percent, and an acceptable error of two percent. The minimum number of samples of each model that shall be tested shall be calculated by multiplying 1,300 times the annual production of that model of water flowmeter divided by Q. Q equals four times the annual production of that water flowmeter plus 1,300.

(3) The manufacturer has certified that the water flowmeter test equipment described in paragraph (a)(2) has been tested annually and found

accurate by standards traceable to the national institute of standards and technology (NIST). Documentation of the testing required in paragraphs (a)(1) and (2) shall be maintained by the manufacturer for a period of at least five years and shall be made available to the chief engineer upon request during normal business hours.

(b) The water flowmeter shall be designed and constructed so that it will meet the following criteria:

(1) Maintain the accuracy required by the chief engineer in K.A.R. 5-1-4(a) and K.A.R. 5-1-9(a);

(2) be protected by the following:

(A) A seal installed by the manufacturer or an authorized representative of the manufacturer; or

(B) a way that makes it impossible to alter the totalizer reading without breaking the seal or obtaining the authorization of the manufacturer, an authorized representative of the manufacturer, or the chief engineer;

(3) clearly indicate the direction of water flow;

(4) clearly indicate the serial number of the water flowmeter;

(5) have a weatherproof register that is sealed from all water sources;

(6) have a register that is readable at all times, whether the system is operating or not;

(7) be able to be sealed by an authorized representative of the chief engineer to prevent unauthorized manipulation of, tampering with, or removal of the water flowmeter;

(8) be equipped with a manufacturer-approved measuring chamber through which all water flows. Except for positive displacement water flowmeters, full-bore electromagnetic water flowmeters, and multijet water flowmeters, flow-straightening vanes shall be installed at the upstream throat of the water flowmeter chamber. The flow-straightening vanes shall meet either of the following criteria:

(A) Be designed and installed by the manufacturer, or an authorized representative of the manufacturer; or

(B) consist of at least three vanes that meet the following conditions:

(i) Are longer, when placed parallel to the length of the pipe, than the inside diameter of the pipe;

(ii) are equally spaced radially on the inner periphery of the pipe; and

(iii) are wider in diametrical distance than one-fourth of the inside diameter of the pipe;

(9) be equipped with an inspection port if the

straightening vanes are not designed, constructed, and installed by the manufacturer or an authorized representative of the manufacturer. The port shall be of sufficient size and placement to allow determination of the following:

(A) The proper installation of the flow-straightening vanes; and

(B) the inside diameter of the pipe in which the water flowmeter sensor is installed;

(10) remain operable without need for recalibration to maintain accuracy throughout the operating life of the water flowmeter; and

(11) have a totalizer that meets the following criteria:

(A) Is continuously updated to read directly only in acre-feet, acre-inches, or gallons;

(B) has sufficient capacity, without cycling past zero more than once each year, to record the quantity of water diverted in any one calendar year;

(C) reads in units small enough to discriminate the annual water use to within the nearest 0.1 percent of the total annual permitted quantity of water;

(D) has a dial or counter that can be timed with a stopwatch over not more than a 10-minute period to accurately determine the rate of flow under normal operating conditions; and

(E) has a nonvolatile memory.

(c) Each water flowmeter that is required to be installed by the chief engineer, or that was required to be installed as a condition of either an approval of application or an order of the chief engineer, or pursuant to a regulation adopted by the chief engineer before the effective date of this regulation, shall meet the following minimum specifications:

(1) Each water flowmeter shall be of the proper size, pressure rating, and style, and shall have a normal operating range sufficient to accurately measure the water flow passing the water flowmeter under normal operating conditions.

(2) Each water flowmeter shall meet the accuracy requirements of K.A.R. 5-1-9(a). If the water flowmeter does not meet the accuracy requirements of K.A.R. 5-1-9(a), then the water flowmeter shall meet either of the following criteria:

(A) Be repaired so that it can meet the accuracy requirements of K.A.R. 5-1-9(a); or

(B) be replaced with a water flowmeter complying with all of the requirements of K.A.R. 5-1-4 and installed in a manner that meets the requirements of K.A.R. 5-1-6. (Authorized by

K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-706c; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-1-5. Variances from water flowmeter specifications. (a) A variance from the chief engineer's water flowmeter specifications may be granted by the chief engineer if the water right owner furnishes detailed specifications of a proposed water flowmeter and demonstrates to the chief engineer all the following:

(1) A water flowmeter meeting the specifications of K.A.R. 5-1-4 will not satisfactorily serve the water user's needs.

(2) The proposed water flowmeter will meet the accuracy requirements of K.A.R. 5-1-4(a) and (b).

(3) The proposed water flowmeter will provide a reliable and accurate water use record for that point of diversion.

(b) Variances shall be granted only on a site-by-site, case-by-case basis. No general variances shall be granted for any brand or model of water flowmeter, except as set forth in subsection (c).

(c) A limited variance shall be granted by the chief engineer for a period of up to three years to allow that specific brand and model of a water flowmeter to be tested in the field and to serve as a water flowmeter required by the chief engineer if all of the following conditions are met:

(1) The manufacturer demonstrates to the chief engineer that a particular model and brand of water flowmeter utilizes new technology, does not meet one or more of the requirements of K.A.R. 5-1-4, and is likely to be as reliable, or more reliable, than water flowmeters currently meeting all of the requirements of K.A.R. 5-1-4.

(2) The manufacturer agrees to install not more than 50, nor less than 10, water flowmeters to test the new technology.

(3) The manufacturer agrees to collect data for at least one year that is sufficient to allow the chief engineer to determine whether that brand and model of water flowmeter meets the reliability and accuracy specifications of K.A.R. 5-1-4. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000.)

5-1-6. Water flowmeter installation specifications. (a) Each water flowmeter required by the chief engineer to be installed or required pursuant to a regulation adopted by the chief engineer, on or after the effective date of

these regulations shall meet the following minimum water flowmeter installation specifications:

(1) Each water flowmeter shall be installed in a manner that meets the following criteria:

(A) Meets or exceeds the instructions of the manufacturer; and

(B) except for a multijet and a positive displacement water flowmeter, is installed so that there are at least five pipe diameters of straight pipe upstream and at least two pipe diameters of straight pipe downstream of the sensor portion of the water flowmeter, regardless of the manufacturer's installation specifications.

(2) Each water flowmeter shall be sized and installed so that full pipe flow will be maintained through the water flowmeter and so that water velocity in the measuring chamber will be within the normal operating range of the water flowmeter at all times while water is being diverted.

(3) If a water flowmeter is located downstream of a water storage device, there shall be at least seven diameters of straight pipe upstream of the water storage device where a water flowmeter may be installed for a field test by the chief engineer.

(4) Each water flowmeter shall be installed at a location at which the flowmeter measures all water diverted from the source of supply and does not measure water or other discharge, including tailwater and sewage effluent.

(b) Each water flowmeter that is required by the chief engineer to be installed, or that was required to be installed as a condition of either an approval of application or an order of the chief engineer, or pursuant to a regulation adopted by the chief engineer, before the effective date of these regulations, shall meet the following minimum installation specifications:

(1) Each water flowmeter shall be installed in a manner that meets or exceeds the instructions of the manufacturer and, except for a multijet and a positive displacement water flowmeter, shall be installed so that there are at least five pipe diameters of straight pipe upstream and at least two pipe diameters of straight pipe downstream of the sensor portion of the water flowmeter, regardless of the manufacturer's installation specifications.

(2) Each water flowmeter shall be sized and installed so that full pipe flow will be maintained through the water flowmeter and so that water velocity in the measuring chamber will be within the normal operating range of the water flowmeter at all times while the water is being diverted.

(3) Each water flowmeter shall be installed at a

location at which the flowmeter measures all water diverted from the source of supply and does not measure water or other discharge, including tailwater and sewage effluent. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-706c; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-1-7. Requirement to install a water flowmeter or other suitable water-measuring device. (a) All nondomestic, nontemporary wells and pump sites operated under the authority of an approval of application issued on or after the effective date of this regulation shall be equipped with a water flowmeter that meets or exceeds the specifications of the chief engineer effective at the time the application is approved by the chief engineer.

(b)(1) All nondomestic, nontemporary gravity diversions of water, including irrigation ditches, operating under the authority of an approval of application issued on or after the effective date of this regulation shall be equipped with a continuous recording gauge, or other suitable water-measuring device located at or near the headgate. Before installation, the water right owner shall submit plans and specifications for the proposed gauge, or other suitable water-measuring device, to the chief engineer and shall receive approval in writing from the chief engineer before installing the gauge or other suitable water-measuring device.

(2) The gauge or other suitable water-measuring device shall meet the following criteria:

(A) Register not less than 94% and not more than 106% of the actual volume of water passing the device under normal operating conditions when compared to a field test made by, or approved by, the chief engineer;

(B) be installed in accordance with the installation requirements of the chief engineer; and

(C) be maintained in a satisfactory operating condition any time water can reasonably be expected to be diverted.

(c) An approval of a nondomestic application for change in place of use, the point of diversion, or the use made of the water, or any combination of these, shall require the owner of the water right to install a water flowmeter on all points of diversion authorized by the water right or approval of application, unless any of the following conditions is met:

(1) The applicant demonstrates to the chief en-

gineer that the application to change the place of use meets the requirements of K.A.R. 5-5-11(e).

(2) The applicant demonstrates to the chief engineer both of the following:

(A) Installation of a water flowmeter meeting these specifications is not physically feasible.

(B) The applicant agrees to implement a reasonable, objective alternative of measuring the quantity of water diverted that is acceptable to the chief engineer.

(3) The water is being diverted from multiple points of diversion authorized by one water right that does not limit the maximum annual quantity and maximum rate of diversion by point of diversion, and all of the water flows to a common point where a water flowmeter meeting the requirements of K.A.R. 5-1-4 and K.A.R. 5-1-6 measures all of the water pumped from all of the points of diversion authorized by that water right.

(4) An application for change in point of diversion only is filed to change the point of diversion of only one well, when more than one well is authorized by the approval of application or water right that authorizes the well for which a change in point of diversion is sought. In this case, only the well that is being relocated shall be required to have a water flowmeter.

(5) The water is being diverted from multiple points of diversion, and all of the following conditions are met:

(A) All points of diversion deliver water to only one distribution system.

(B) Each point of diversion can reasonably be expected to operate simultaneously and for the same total amount of time each calendar year.

(C) Each individual point of diversion has a tested diversion rate of less than 400 gallons per minute.

(D) A water flowmeter is installed that will measure 100 percent of the water pumped from all points of diversion.

(E) If the flow rate has not been tested within the last five years by the chief engineer or a person approved by the chief engineer, the owner shall have each point of diversion tested by a person approved by the chief engineer pursuant to K.A.R. 5-1-11. If the chief engineer becomes aware of information that the tested rates could no longer be correct, the chief engineer, or someone approved by the chief engineer pursuant to K.A.R. 5-1-11, may retest the rate of diversion produced by each point of diversion and those

flow rates shall subsequently be used to determine the quantity diverted by each point of diversion.

(F) The owner has signed a consent agreement with the chief engineer that includes the following:

(i) A determination of the percentage of flow that will be attributed to each point of diversion if future administration becomes necessary; and

(ii) an agreement that the chief engineer may require a water flowmeter for each point of diversion if the chief engineer determines there are issues concerning impairment, violations of the conditions of the permit or water right, or a violation of the Kansas water appropriation act and its regulations.

(G) All uses of water are authorized by either a vested water right or a water right that has been certified pursuant to K.S.A. 82a-714, and amendments thereto.

(d) Except as set forth in subsection (c), if an approval of an application for change requires the installation of a water flowmeter, the requirement to install a water flowmeter shall also be placed on all other water rights and approvals authorizing diversion of water from the same point of diversion.

(e) If any water right or approval of application has a condition requiring development, adoption, and implementation of a water conservation plan pursuant to K.S.A. 82a-733 and amendments thereto, a water flowmeter or suitable water-measuring device shall be installed on each authorized point of diversion in compliance with these regulations.

(f) The owner of a water right, including a domestic water right, or an approval of application shall also be required by the chief engineer to install a water flowmeter or other suitable water-measurement device that meets the requirements of these regulations on each authorized point of diversion if it is necessary for the chief engineer to effectively administer water rights to prevent impairment, to protect minimum desirable stream flows, to conserve water, or to otherwise carry out the duties of the chief engineer as set forth in the Kansas water appropriation act, K.S.A. 82a-701 et seq. and amendments thereto.

(g) Except as set forth in subsection (c), if a water flowmeter is required by the chief engineer, each point of diversion authorized by the approval of application or water right shall be required to have a separate meter. (Authorized by K.S.A. 82a-

706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000; amended Oct. 31, 2008.)

5-1-8. Water flowmeter maintenance. If a water right owner is required by the chief engineer to install a water flowmeter, the water right owner shall maintain the water flowmeter in compliance, as defined by K.A.R. 5-1-1, whenever diversion of water can reasonably be expected to occur. If at any time the required water flowmeter fails to function properly, the owner shall promptly initiate action to repair or replace the meter, or to correct any problems with the installation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000.)

5-1-9. Criteria to determine when a water flowmeter is out of compliance. A water flowmeter shall be considered to be out of compliance if any of the following criteria is met: (a) The water flowmeter registers less than 94 percent or more than 106 percent of the actual volume of flow water passing the water flowmeter. If necessary, this determination may be made by a field test conducted by, or approved by, the chief engineer.

(b) The seal placed on the totalizer by the manufacturer or the manufacturer's authorized representative has been broken, or the totalizer value has been reset or altered without the authorization of the manufacturer, an authorized representative of the manufacturer, or the chief engineer.

(c) A seal placed on the water flowmeter or totalizer by the chief engineer has been broken.

(d) The water flowmeter register is not clearly visible or is unreadable for any reason.

(e) There is not full pipe flow through the water flowmeter.

(f) Flow-straightening vanes have not been properly designed, manufactured, and installed.

(g) The water flowmeter is not calibrated for the nominal size of the pipe in which it is installed.

(h) The water flowmeter is not installed in accordance with the manufacturer's installation specifications. However, five diameters of straight pipe above the water flowmeter sensor and two diameters below the water flowmeter sensor shall be the minimum spacing, regardless of the manufacturer's installation specifications.

(i) A water flowmeter is installed at a location at which the flowmeter does not measure all of the water diverted from the source of supply. (Authorized by K.S.A. 82a-706a; implementing K.S.A.

82a-706a and K.S.A. 82a-706c; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-1-10. Duties of water right owner when a water flowmeter is out of compliance.

(a) A water right owner, or the water right owner's authorized designee, shall promptly notify the chief engineer if any water flowmeter required by the chief engineer is out of compliance.

(b) Within 30 days after the date on which the out-of-compliance water flowmeter has been repaired or replaced, the water right owner or the water right owner's authorized designee shall notify the chief engineer in writing of the following information:

(1) The date the water flowmeter became out of compliance;

(2) the water flowmeter reading at the time the water flowmeter became out of compliance;

(3) if the water flowmeter was replaced, the following information:

(A) The brand, model, size, and serial number of the new water flowmeter;

(B) the units in which the new water flowmeter reads;

(C) the reading of the new water flowmeter at the time of installation; and

(D) the location of the new water flowmeter on the diversion works or delivery system;

(4) if the water flowmeter was repaired, the water flowmeter reading immediately before the repair and the reading of the water flowmeter at the time it was reinstalled or the repair was completed on site;

(5) the date the repair or replacement was completed; and

(6) the amount of water diverted while the water flowmeter was out of compliance.

(c) If the water right owner does not maintain a record of diversions of water that is sufficient to reasonably estimate the quantity of water diverted while the water flowmeter was out of compliance, it shall be assumed, for the sole purposes of enforcement of the terms, conditions, and limitations of the approval of application or water right, and priority administration of water rights among water users, that the diversion works were operated continuously at the tested rate of diversion during the entire period the water flowmeter was out of compliance. If the rate of diversion has not been tested by the chief engineer, then it shall be assumed that the diversion works were operated continuously at the authorized rate of diversion

during the entire time the water flowmeter was out of compliance. The assumption set forth in this subsection shall not apply to the determination of the annual quantity of water diverted for the purpose of perfecting a water right.

(d) If the water right owner is required by the chief engineer to repair or replace an inoperable water flowmeter, it shall be the duty of the water right owner to ensure that the repaired or replaced water flowmeter is in compliance with K.A.R. 5-1-4 and K.A.R. 5-1-6. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000.)

5-1-11. Water flowmeter testing by a nonagency person. If a water right owner desires to have a water flowmeter flow rate test done by a nonagency person for any reason, a person may be approved by the chief engineer to perform a water flowmeter flow rate test if the person demonstrates to the chief engineer both of the following:

(a) The person has the training, skills, and experience necessary to properly conduct the test.

(b) The person has the appropriate water flowmeter to do the test, and the water flowmeter has been tested for accuracy with water flowmeter test equipment that has been found to be accurate using standards traceable to the national institute of standards and technology (NIST). The equipment shall have been tested and found to be accurate within 12 months of performing the water flowmeter test. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000.)

5-1-12. List of water flowmeters certified by the manufacturer to meet the specifications of the chief engineer. (a) A list of all makes and models of water flowmeters that have been certified by the water flowmeter manufacturer to meet the specifications of the chief engineer shall be maintained by the chief engineer. This list shall be made available by the chief engineer to the public upon request.

(b) A water flowmeter shall be placed on the list only if the manufacturer has submitted to the chief engineer all of the following information for each water flowmeter model:

(1) The water flowmeter manufacturer's name, address, contact person's name, and telephone number;

(2) the water flowmeter model name or number;

(3) proof that a random sample of water flowmeters of each model has been tested in accordance with the requirements of K.A.R. 5-1-4(a);

(4) the last date that the water flowmeter test equipment was tested and found to be accurate by standards traceable to the national institute of standards and technology (NIST);

(5) verification that the water flowmeter is designed and constructed so that accuracy will be maintained over the life of the water flowmeter;

(6) verification that the water flowmeter serial number and direction of flow are clearly indicated on the water flowmeter;

(7) verification that the register is weatherproof and sealed from all water sources;

(8) verification that the totalizer will read only in acre-feet, acre-inches, or gallons;

(9) the number of active digits in the totalizer;

(10) verification that the memory is nonvolatile;

(11) verification that the totalizer cannot be reset without breaking the manufacturer's seal or obtaining the authorization of the manufacturer, an authorized representative of the manufacturer, or the chief engineer;

(12) verification that the water flowmeter and register are constructed in such a manner that they can be sealed by the chief engineer;

(13) a description of the measuring chamber provided for each water flowmeter model;

(14) specifications of the flow-straightening vanes installed in the measuring chamber;

(15) the spacing recommendations for each water flowmeter model in terms of pipe diameters of straight pipe required upstream and downstream of the water flowmeter sensor; and

(16) the normal operating range of the water flowmeter.

(c) A brand or model of a water flowmeter shall be removed from the list of water flowmeters specified in subsection (a) of this regulation if it has been demonstrated to the chief engineer that the brand or model of water flowmeter does not reliably and consistently meet the accuracy standards of K.A.R. 5-1-9(a). (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-706c; effective Sept. 22, 2000; amended Oct. 24, 2003.)

Article 2.—VESTED RIGHTS

5-2-1 and 5-2-2. Not in active use.

Editor's Note:

Proposed regulations 5-2-1 and 5-2-2 were rejected by the legislature, see L. 1978, ch. 460.

5-2-3. Battery of wells. Except as set forth in subsection (c), if a permit to appropriate water did not authorize a battery of wells, as defined in K.A.R. 5-1-1, before the effective date of this regulation, an application for change filed pursuant to K.S.A. 82a-708b, and amendments thereto, to add one or more wells to the authorized well to create a battery of wells shall not be approved unless all of the following criteria in either subsection (a) or (b) are met at the time that the application for change is filed:

(a) (1) The time to construct the diversion works has not expired.

(2) The proposed battery will meet the definition of a battery of wells as defined in K.A.R. 5-1-1.

(b) (1) The time to construct the diversion works has expired.

(2) A new application to appropriate water filed to appropriate water at the geocenter of the proposed battery of wells would meet the safe yield, allowable appropriation, or similar type of regulation, for a well filed at that location.

(3) The proposed battery of wells meets the definition of a battery of wells as defined in K.A.R. 5-1-1.

(c) Subsections (a) and (b) shall not apply to an application to change the point of diversion filed to add one or more wells to the authorized well to create a battery of wells if the proposed battery of wells is located within the boundary of a groundwater management district for which the chief engineer has adopted a specific regulation applicable to batteries of wells within that district. (Authorized by and implementing K.S.A. 82a-706a; effective Sept. 22, 2000.)

5-2-4. Determination or certification of a domestic water right. Each application filed after the effective date of this regulation to determine or certify a domestic water right based on water use in a confined feeding facility that had a capacity of 1,000 head or more and was privately owned and operated before May 1, 1986 shall be determined or certified for an annual quantity of water of 15 acre-feet or the annual quantity of water actually used, whichever is less. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-701, K.S.A. 82a-706a, and K.S.A. 2007 Supp. 82a-708b; effective Oct. 31, 2008.)

Article 3.—APPROPRIATION RIGHTS**5-3-1. Application acceptable for filing.**

(a) To be acceptable for filing, an application for an approval of application shall be accompanied by the statutorily required filing fee, except for an application for domestic use, and shall contain all of the following:

(1) The name and mailing address of each applicant;

(2) the signature of each applicant or each authorized representative;

(3) the proposed source of water supply;

(4) the proposed authorized place of use; and

(5) either a description of the location of the proposed point of diversion or a request for a 60-day period of time in which to establish the proposed point of diversion within a specifically described, nominal legal quarter section of land.

(b) When an application is received in the office of the chief engineer and assigned a number, the maximum quantity of water per calendar year and the maximum rate of diversion shall not be increased. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-709; modified, L. 1978, ch. 460, May 1, 1978; amended May 1, 1980; amended Oct. 24, 2003.)

5-3-1a. Application for a basin term permit. An application for a basin term permit shall be filed on a form prescribed by the chief engineer. The term requested shall not exceed one year. A basin term permit may be extended in one-year increments if all of the following conditions are met:

(a) The request for extension is filed before the end of the current term in a manner acceptable to the chief engineer.

(b) The applicant has complied with the terms, conditions, and limitations of the basin term permit during the previous calendar year.

(c) Granting the requested extension will not cause impairment of each approval of application and water right with an earlier priority.

(d) The applicant shows good cause why the extension should be granted.

The total time authorized by a basin term permit shall not exceed five calendar years. Basin term permits shall not be transferable. At the end of the specified term, the permit shall be dismissed, and any priority it may have had shall be forfeited. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712; effective Sept. 22, 2000.)

5-3-1b. Complete new application. (a) A new application to appropriate water for beneficial use shall be considered to be a “complete application” for the purposes of K.S.A. 82a-708a, and amendments thereto, if the application completely and accurately meets all the requirements specified in this regulation and the following criteria:

(1) The requirements specified in K.S.A. 82a-708a, and amendments thereto;

(2) the requirements specified in K.S.A. 82a-709, and amendments thereto;

(3) the requirements specified in K.S.A. 82a-710, and amendments thereto;

(4) any water conservation plans required by the chief engineer pursuant to K.S.A. 82a-733, and amendments thereto;

(5) the requirements of K.S.A. 82a-301 through K.S.A. 82a-305a, and amendments thereto, if the proposed point of diversion, or redirection, is a dam or stream obstruction;

(6) the requirements specified in K.A.R. 5-3-1;

(7) the requirements specified in K.A.R. 5-3-4; and

(8) the requirements specified in K.A.R. 5-3-4d.

(b) If minimum desirable streamflow (MDS) requirements have been set for the proposed source of water supply, the application shall contain a statement signed by the applicant acknowledging that the MDS requirements apply to the proposed source of water supply and that the diversions of water authorized by this approval of application could be regulated at times to protect MDS.

(c) If the applicant is requesting a waiver or exemption of a regulation pursuant to K.S.A. 82a-1904, and amendments thereto, the applicant shall submit a written request for the waiver or exemption, and documentation to support the waiver or exemption.

(d) If the proposed point of diversion is located within the boundaries of a groundwater management district, a final recommendation or analysis of the availability of water has been received from the groundwater management district within the time limit set by the chief engineer concerning the approval, denial, or modification of the application.

(e) If a substantive question has been raised concerning whether approval of the application could cause impairment of senior water rights or prejudicially and unreasonably affect the public

interest, the applicant shall submit sufficient information to resolve that question.

(f) If any actions are required to be taken by the applicant on other approvals of applications or water rights owned by the applicant in order to make the new application approvable, including dismissals, reductions in water rights in accordance with K.A.R. 5-7-5, and applications for change, all necessary forms shall be completed and filed with the chief engineer.

(g) The applicant shall submit all information and data necessary to demonstrate that the application complies with the applicable regulations adopted by the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-708a, K.S.A. 82a-709, K.S.A. 82a-710, K.S.A. 2002 Supp. 82a-711, K.S.A. 82a-733, and K.S.A. 2002 Supp. 82a-1904; effective Oct. 24, 2003.)

5-3-2. Priorities. (a) Upon receipt in the office of the chief engineer of an acceptable application for permit to appropriate water for beneficial use, accompanied by the statutory application fee, a stamp showing the date and time of receipt shall be placed on the application form. The date and time of receipt of the application for any use, other than domestic, shall establish the priority of whatever appropriation right that may be subsequently perfected pursuant to the application; (b) The date and time of the receipt of an application for permit to appropriate water for domestic use or the date of the first use of water for such purpose, whichever is earlier, shall establish the priority of the appropriation right for domestic use. When the first use of water is earlier in time than the filing date of an application, the applicant shall furnish affidavits from disinterested parties to substantiate the date that water was first used from the appropriate water supply for domestic purposes. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-3-3. Storage of surface water for domestic use. (a) Any person entitled to use surface water for beneficial purposes may collect and store surface water if the collection, storage, use, and times of use are consistent with reasonable storage and conservation practices. A reasonable quantity of water stored for domestic use shall be considered to be any quantity of water that meets the following requirements:

(1) Is sufficient to satisfy the domestic use for the current year and two succeeding years; and

(2) is necessary for the initial filling of the reservoir and refilling the reservoir after being drawn down for maintenance or other essential reasons. Collection and storage of all natural flows for domestic use shall be subject to vested rights and prior appropriation rights.

(b) The maximum average annual potential net evaporation from the surface of a pond, reservoir, or other similar surface water impoundment used exclusively for domestic purposes shall not exceed 15 acre-feet. The Kansas department of agriculture's map titled "maximum water surface for domestic reservoirs and ponds," dated December 7, 2007, is hereby adopted by reference. This map shall be used to determine the maximum surface area of a pond, reservoir, or similar surface water impoundment that may be used exclusively for domestic purposes. The maximum water surface shall be measured at either of the following, whichever is lower:

(1) The elevation of the principal spillway tube; or

(2) the elevation of the lowest uncontrolled spillway.

(c) An average annual potential net evaporation volume in excess of 15 acre-feet may be allowed if a person entitled to use surface water for domestic use demonstrates to the chief engineer that the quantity of water necessary to satisfy the domestic use, and to offset evaporation and seepage, makes it necessary to store surface water in a pond, reservoir, or similar surface water impoundment with a surface area that produces an average annual potential net evaporation volume greater than that provided in subsection (b).

(d) Groundwater shall not be pumped from a well into a pond, reservoir, or similar surface water impoundment for storage unless the owner of the groundwater right demonstrates to the chief engineer that the storage would be reasonable. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978; implementing K.S.A. 82a-701(c), K.S.A. 82a-705a, and K.S.A. 82a-706a; amended Oct. 31, 2008.)

5-3-3a. Legal access. If the chief engineer is aware, or becomes aware, that the applicant does not have legal access to either the point of diversion or the place of use, before an application for any of the following can be approved by the chief engineer, the applicant shall demonstrate that the applicant has legal access to the proposed point of diversion and the proposed place of use

before the approval of the application: (a) An approval of application;

(b) a change in place of use;

(c) a change in point of diversion; or

(d) any combination of subsections (a), (b), and (c). (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-708a; effective Oct. 24, 2003.)

5-3-4. Application. (a) Each application for a permit to appropriate water for beneficial use shall contain all the information requested for the proposed uses as specified in the prescribed application form and any other information that may be required for a complete understanding of the proposed appropriation.

(b) Each application shall be accompanied by an aerial photograph or a detailed plat with a scale of at least one inch equals 1,320 feet, or a U. S. geological survey topographic map, with a scale of at least 1:24,000. The following information shall be plotted on the plat, photograph, or topographic map using appropriate symbols:

(1) The section corners;

(2) the center of the section, identified by the section number, township, and range;

(3) the location of each point of diversion, including each proposed well location, stream bank pump site, dam location or location of other works for diversion of water;

(4) the location of the place of use, including any remediation site or dewatering site, identified by crosshatching or by some other appropriate method;

(5) the location of all other water wells of every kind within one-half mile of each well covered by the proposed appropriation, each of which shall be identified by its use and the name and mailing address of the owner, if the proposed appropriation is for use of groundwater;

(6) the name and mailing address of the owner or owners of each tract of land adjacent to the stream for a distance of one-half mile upstream and one-half mile downstream from the property lines of the land owned or controlled by the applicant, if the proposed appropriation is for the use of surface water;

(7) the locations of proposed or existing dams, dikes, reservoirs, canals, pipelines, power houses, and any other structures for the purpose of storing, conveying, or using water; and

(8) a north arrow and scale.

The information shown on the photograph,

plat, or map shall be legible. Black line prints may be submitted in lieu of the original drawing if a plat is submitted.

(c) Separate applications shall be filed for surface water and groundwater.

(d) If the source of supply is groundwater, a separate application shall be filed for each proposed well or battery of wells, except that any of the following categories may be included in a single application:

(1) Not more than four wells within a circle with a quarter-mile radius in the same local source of supply that do not exceed a maximum diversion rate of 20 gallons per minute per well;

(2) all wells for a remediation site; or

(3) all wells for a dewatering site. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-709; modified, L. 1978, ch. 460, May 1, 1978; amended May 1, 1980; amended May 1, 1981; amended Oct. 31, 2008.)

5-3-4a. Hearing prior to approval of application. A hearing may be held before the chief engineer, or a person designated by the chief engineer, on an application to appropriate water for beneficial use prior to approval, when the chief engineer finds it to be in the public interest to hold a hearing, or a hearing has been requested by a person who shows to the satisfaction of the chief engineer that approval of the application may cause impairment of senior water rights or permits. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective May 1, 1980; amended May 31, 1994.)

5-3-4b. Deadlines for return of documents. (a) If the chief engineer allows a person a specific number of days to return or submit a document or other information, the time period shall be computed as prescribed in K.S.A. 60-206(a) and (e), and amendments thereto.

(b) If a person is given until a specific date to return or submit a document or other information, the document or information shall be deemed to be timely filed if it is received in the office of the chief engineer no later than the third working day following the specified date. Working days shall be all days except Saturdays, Sundays, and legal holidays designated by the United States congress, the Kansas legislature, or the governor of Kansas. Half holidays shall be counted as working days.

(c) Any document that is postmarked by the United States postal service with a legible date on or before the deadline set by the division for re-

turning the document shall be accepted by the division as being timely filed, regardless of when it is received. In the case of United States registered mail, the date of registration shall be deemed to be the postmark date. The term "United States postal service," as used in this subsection, shall include a private delivery service available to the general public that routinely records, in the regular course of business, the date the item is given to the service for delivery. The date the item is given to the service for delivery shall be deemed to be the postmark date. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-710; effective May 1, 1980; amended Sept. 22, 2000.)

5-3-4c. Retaining new applications. (a) A new application to appropriate water for beneficial use shall be held by the chief engineer in accordance with the terms of subsection (b) if the application meets both of the following conditions:

(1) The application is in proper form and has been completely processed, but cannot be approved because it does not currently comply with one or more statutory or regulatory requirements, including spacing, safe yield, and allowable appropriation regulations.

(2) There is good cause to believe that, if the application were held for a reasonable period of time, it may be approvable in the future because of actions currently pending on other permits and water rights in the area, including issuance of certificates, dismissals of applications, and declarations of abandonment.

(b) Upon demonstration by the applicant to the chief engineer that the application apparently could be approved within a reasonable time, not to exceed 365 days from the date the request to retain the application was received by the chief engineer, if the pending actions take place, the applicant's pending new application may be held by the chief engineer for a period not to exceed 365 days.

(c) If the application still cannot be approved at the end of the time set forth in section (b), the application shall be dismissed by the chief engineer and the priority of the application forfeited.

(d) If any prior applications to appropriate water or prior applications to change the point of diversion from the same source of supply are not complete and if the approval or denial of these applications could affect the approval of the proposed

new application or application to change a water right, then the 150-day period specified in K.S.A. 82a-708a, and amendments thereto, shall begin to run only after all these prior applications have been processed. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-705, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-708a, and K.S.A. 82a-710; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-3-4d. Stratigraphic log requirements.

(a) Except as set forth in subsection (b), each applicant who files either of the following applications shall submit to the chief engineer a stratigraphic log for a test hole located within 300 feet of the proposed new or replacement well:

(1) A new application to appropriate groundwater, except for domestic use, a temporary permit, or a term permit for fewer than five years; or

(2) an application to change the point of diversion to relocate a well.

This stratigraphic log shall contain geologic and any other information sufficient to allow the chief engineer to understand the lithology and to classify the groundwater source formation or formations from which the proposed well will be withdrawing water.

(b) (1) If an application is filed for a new well, the stratigraphic log shall not be required if the chief engineer has sufficient information to understand the lithology and determine the groundwater source formation or formations from which the proposed well will be withdrawing water.

(2) If an application is filed for a change in point of diversion, the stratigraphic log shall not be required if the chief engineer has sufficient information to understand the lithology and determine the groundwater source formation or formations from which the original well withdrew water and the replacement well will withdraw water.

(c) Each applicant to construct a new well or to change the point of diversion to a newly constructed well who submitted a stratigraphic log to the chief engineer pursuant to subsection (a) above shall not be required to submit to the chief engineer a copy of the stratigraphic log of the completed well as required by the Kansas department of health and environment under the authority of K.S.A. 82a-1212 and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 82a-709, and K.S.A. 82a-710; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-3-4e. Groundwater source formation

codes. The Kansas department of agriculture, division of water resources' document titled "groundwater source formation codes," dated June 24, 2004, is hereby adopted by reference. The groundwater source formation codes used by the chief engineer in administering the Kansas water appropriation act shall be the codes specified in this document. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-709; effective Sept. 22, 2000; amended, T-5-8-23-04, Aug. 23, 2004; amended Nov. 29, 2004.)

5-3-5. Approval of application. The approval of an application on the prescribed form shall constitute a permit to proceed with the construction of authorized diversion works and the diversion and use of water.

The applicant shall be notified of the approval of the application by transmitting to him or her the original document setting forth the terms, conditions, and limitations of the permit which has been duly dated and signed by the chief engineer or his or her authorized representative. A copy of the approval of application and permit to proceed shall be maintained in the office of the chief engineer or the appropriate field office. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-3-5a. Authorization for the use of water for emergency purposes. The chief engineer, or a person designated by the chief engineer, may authorize the use of water for emergency purposes. The emergency approval shall be subject to the terms, conditions and limitations specified by the chief engineer and may be granted when determined to be in the public interest or when needed to protect the quality of a water supply, to provide fire protection, or to provide an alternate point of diversion or source of supply when the principal source of supply or point of diversion is unavailable due to conditions beyond the control of the applicant. (Authorized by K.S.A. 82a-706a, 82a-711; effective May 1, 1980.)

5-3-5b. Approval of application for water for the development of underground storage in mineralized formations. In any case where it is not technologically and economically feasible to utilize poorer quality water for the development of underground storage in mineralized formations and fresh water must be used, the chief engineer shall require the construction of surface brine storage facilities to the extent eco-

nomically and technologically feasible in an amount not to exceed forty percent (40%) of underground storage capacity of the applicant. This regulation does not exempt a person from complying with the requirements of other state and federal agencies relative to the construction of surface brine storage facilities. (Authorized by K.S.A. 82a-706a, 82a-707(d); effective May 1, 1980.)

5-3-5c. Check valves. (a) All diversion works not subject to regulation under the Kansas chemigation safety law, K.S.A. 2-3301 et seq. and amendments thereto, into which any type of chemical or other foreign substances will be injected into the water pumped from the diversion works shall be equipped with an in-line, automatic, quick-closing check valve capable of preventing pollution of the source of the water supply.

(b) Each check valve required by the chief engineer shall be constructed and installed in accordance with the requirements specified in K.A.R. 5-6-13a.

(c) Each check valve and all required components shall be maintained in an operating condition that prevents backflow into the source of water supply whenever a foreign substance could reasonably be expected to be introduced into the water system. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 82a-712; effective May 1, 1980; amended May 1, 1981; amended Oct. 24, 2003.)

5-3-5d. Requirement to install a water level measurement tube. Each well with an authorized maximum rate of diversion of 100 or more gallons per minute drilled after the effective date of this regulation, except those wells authorized under a temporary permit or a domestic right, shall have a tube installed in accordance with specifications adopted by the chief engineer. This tube shall be suitable for making water level measurements and shall be maintained in working condition. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-706c; effective May 1, 1980; amended Sept. 22, 2000; amended Oct. 31, 2008.)

5-3-5e. Meters and other water-measuring devices; reporting readings; maintenance, and replacement. (a) For the purpose of this regulation, "meter" shall mean a water flow-meter or other water-measuring device.

(b) Whenever the installation of a meter is re-

quired by the chief engineer as a condition of a water right or permit, by written order of the chief engineer, or by requirement of a groundwater management district, the water right owner shall report all information required on the form prescribed by the chief engineer pursuant to K.S.A. 82a-732, and amendments thereto, including the following:

(1) The beginning and ending readings of the meter each calendar year;

(2) the units in which the meter registers; and

(3) the quantity of water diverted during the calendar year in the same units in which the meter registers.

(c) Whenever a totalizing hour meter has been required by the chief engineer or a groundwater management district, the water right owner shall report all information required on the form prescribed by the chief engineer pursuant to K.S.A. 82a-732, and amendments thereto, including the following:

(1) The beginning and ending readings of the meter each calendar year;

(2) the units in which the meter registers; and

(3) the rate of diversion at which water is pumped in gallons per minute. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-732; effective May 31, 1994; amended Sept. 22, 2000.)

5-3-5g. Designation of a water use correspondent. If the owner or owners of an approval of application or a water right desire to delegate the authority to receive and submit the annual water use reports as prescribed by K.S.A. 82a-732, and amendments thereto, to another person, an owner of the approval of application or the water right shall sign and submit a form prescribed by the chief engineer designating the person responsible to receive and submit the required annual water use report. However, the water right owner or owners shall remain, in all cases, the person or persons legally responsible for filing the water use reports required by K.S.A. 82a-732, and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-732; effective Sept. 22, 2000.)

5-3-5h. Water conservation plans. Each water conservation plan shall be submitted on a form prescribed by the chief engineer. The plan shall also contain the name, address, and telephone number of the designer of the water conservation plan. (Authorized by K.S.A. 82a-706a;

implementing K.S.A. 82a-733; effective Sept. 22, 2000.)

5-3-5i. Time limit to implement a water conservation plan. (a) The time to fully implement the water conservation plan shall be limited by the chief engineer to a reasonable specific date, which may be extended for good cause shown by the applicant.

(b) A municipal or industrial water user shall be given at least one full calendar year after the conservation plan is approved by the chief engineer to fully implement the water conservation plan.

(c) A user of water for irrigation shall be given at least one full growing season after the conservation plan is approved by the chief engineer to fully implement the approved water conservation plan. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-733; effective Sept. 22, 2000.)

5-3-5j. Maintenance of a water conservation plan. Once implemented, the applicant shall continue to satisfactorily maintain each component of the water conservation plan. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-733; effective Sept. 22, 2000.)

5-3-5k. Review of a water conservation plan. The right to review the water conservation plan to determine if it is consistent with current guidelines adopted and maintained pursuant to K.S.A. 74-2608, and amendments thereto, shall be reserved by the chief engineer. If the review determines that the water conservation plan is materially different from those guidelines, then the owner of the water right or approval of application may be ordered by the chief engineer to amend the water conservation plan to make it consistent with the current guidelines for conservation plans and practices adopted and maintained pursuant to K.S.A. 74-2608, and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-733; effective Sept. 22, 2000.)

5-3-5l. Changes in a water conservation plan. If a person required to implement a water conservation plan desires to make a material change in the plan, that person shall submit a request to make the change to the chief engineer on a form prescribed by the chief engineer. Any material change in an approved water conservation plan shall require the prior written approval of the chief engineer. Any proposed change in a water conservation plan shall be subject to the same type of review as that required for the orig-

inal water conservation plan. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-733; effective Sept. 22, 2000.)

5-3-5m. Limited power of attorney. If all of the owners of an approval of application or water right desire to authorize any other person to take any type, or types, of official action on behalf of the approval of application or water right, all of the owners of the approval of application or water right shall meet the following requirements:

(a) A limited power of attorney shall be submitted to the chief engineer.

(b) The limited power of attorney shall be signed and acknowledged by all of the owners of the approval of application or water right and filed pursuant to the provisions of K.S.A. 58-601, and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-701 et seq.; effective Sept. 22, 2000.)

5-3-5n. Authorized place of use. (a) Except as set forth in subsection (b), each approval of application, or an approval of an application for change filed in accordance with K.S.A. 82a-708b, and amendments thereto, shall describe the authorized place of use as either of the following:

(1) Land not authorized for beneficial use of water by any other water right or approval of application; or

(2) exactly the same land authorized for beneficial use of water by one or more prior approvals of applications or water rights.

(b) The requirement in subsection (a) shall not apply to applications that propose to partially overlap the authorized place of use with any of the following:

(1) A municipality;

(2) an irrigation district;

(3) an irrigation ditch company;

(4) a rural water district;

(5) another authorized place of use that cannot all be physically served by all of the water rights and approvals of applications;

(6) an authorized place of use that is owned by different landowners who do not operate together; or

(7) the owner or owners of the water rights and approvals of applications demonstrate both of the following to the chief engineer:

(A) It is not practical or desirable to have a complete overlap.

(B) Allowing an incomplete overlap of authorized places of use will not prejudicially and un-

reasonably affect the public interest. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-709; effective Sept. 22, 2000.)

5-3-50. Amending water use reports. (a) Except as specified in this subsection, each annual water use report submitted to the chief engineer pursuant to K.S.A. 82a-732, and amendments thereto, shall be considered the official report of water use information filed in the office of the chief engineer. Each person who files a request to correct a water use report shall ensure that the water use report is corrected in accordance with all of the following procedures, in order for the corrected report to be considered the official report:

(1) A written request to correct the report is submitted to the chief engineer on a form prescribed by the chief engineer.

(2) Each requested change in the water use report is documented by independent, verifiable supporting information, including fuel records, power records, crop production records, county appraiser records, natural resource conservation service records, crop insurance records, other similar types of records, and any combination of these records. The independent, verifiable supporting information may be supported by an affidavit from one or more competent, disinterested persons who have actual personal knowledge of the facts.

(3) The written request, including the supporting documentation, is verified upon oath or affirmation to be accurate and complete to the best knowledge of the person filing the request.

(4) The person filing the request to change a water use report sustains the burden to show the following:

(A) How the water use report on file in the office of the chief engineer is erroneous or incomplete; and

(B) that the proposed changes are the most complete and accurate water use information available.

(b) The right to perform the following shall be reserved by the chief engineer:

(1) Contest the accuracy and completeness of any water use report filed with the chief engineer, or corrected in accordance with this regulation, to show that the water use report is inaccurate, incomplete, false, or fraudulent; and

(2) make a determination of the actual water use based on the best available information. (Au-

thorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-732; effective Aug. 13, 2004.)

5-3-6. Forfeiture, revocation and dismissal. Failure of the applicant or his or her successors to comply with the provisions of the approval of application and permit to proceed and its terms, conditions and limitations without good cause shall result in the forfeiture of the priority date, revocation of the permit and dismissal of the application. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-3-6a. Sealing pumps. If the chief engineer, or any of his or her duly authorized representatives, has reasonable cause to believe that any person has failed to obey an order of the chief engineer to cease and desist from operating a pump or other diversion device, the chief engineer or his or her duly authorized representative shall place a seal, or chain and padlock, on the pump or device in such a manner as to render the pump or other diversion device inoperable.

If the seal, or chain and padlock, is broken without the written permission of the chief engineer, this shall create a rebuttable presumption that the pump had been unlawfully operated in violation of the order of the chief engineer and that the water right holder has been acting in violation of the conditions of his or her permit to appropriate water for beneficial use.

The suspected violator shall be informed in writing of the creation of this presumption at the time the seal, or chain and padlock, is installed on the pump or other diversion device. (Authorized by K.S.A. 82a-706a, 82a-706b; effective May 1, 1980.)

5-3-7. Request for extension of time. (a) For applications filed after May 1, 1978, any request for extension of time either for completion of diversion works or for perfecting the appropriation shall be submitted to the chief engineer before the expiration of the time allowed for completing the diversion works or perfecting the appropriation. The request shall be signed by the holder of the approval of application and permit to proceed, by the owner of the land to be irrigated, by an authorized official of a municipality, corporation or partnership, or by any other person that has a recognized interest in the appropriation. Failure to request an extension of time to perfect the appropriation within the time allowed shall

limit the water appropriation right to the extent perfected in accordance with the terms, conditions, and limitations set forth in the approval of application.

(b) The request for an extension of time either for completion of diversion works or for perfecting the appropriation shall be accompanied by the statutorily required filing fee and shall include the following information:

- (1) The application number;
- (2) the date by which the diversion works will be completed or the appropriation will be perfected;
- (3) the progress that has been made toward completing the diversion works or perfecting the appropriation;
- (4) if for irrigation, the number of acres of land to which water has been applied during one calendar year;
- (5) the reason why the diversion works have not been completed or the appropriation has not been perfected; and
- (6) the plans for completing the diversion works or perfecting the appropriation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-714(e); modified, L. 1978, ch. 460, May 1, 1978; amended Oct. 24, 2003.)

5-3-8. Certificate of appropriation. Upon determination that the appropriation diversion works have been completed and an appropriation right perfected in conformity with an approved application and plans, the chief engineer shall issue a certificate of appropriation setting forth the extent to which the appropriation right was perfected. No appropriation shall be determined for a quantity of water or a diversion rate in excess of that set forth in the approval of application and permit to proceed or in excess of that found to have been actually applied to the approved beneficial use or for any quantity of water found to have been wasted during the calendar year of record used as the basis for perfecting the appropriation right. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-3-9. Public interest. (a) In accordance with K.S.A. 82a-711(b)(5), as amended, in ascertaining whether a proposed use will prejudicially and unreasonably affect the public interest, the chief engineer shall also take into consideration the quantity, rate and availability of water necessary to:

- (1) satisfy senior domestic water rights from the stream;
- (2) protect senior water rights from being impaired by the unreasonable concentration of naturally occurring contaminants; and
- (3) over the long term reasonably recharge the alluvium or other aquifers hydraulically connected to the stream.

(b) Unless otherwise provided by regulation, it shall be considered to be in the public interest that only the safe yield of any source of water supply, including hydraulically connected sources of water supply, shall be appropriated. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-10. Availability of water for appropriation - safe yield. (a) Except as set forth in subsection (b) and K.A.R. 5-3-16 and K.A.R. 5-3-17, the approval of any new application to appropriate groundwater or surface water for beneficial use, except for domestic use, temporary use and term permits for five years or less, shall not cause the safe yield of the source of water supply to be exceeded, neither shall it otherwise prejudicially and unreasonably affect the public interest. The approval of term permits shall not allow impairment nor prejudicially and unreasonably affect the public interest.

(b) This regulation shall not apply to an application which proposes:

- (1) to divert water from a source of water supply subject to a different safe yield, allowable appropriation, depletion or other similar type of criteria adopted by rule and regulation of the chief engineer or intensive groundwater use control area order of the chief engineer issued pursuant to K.S.A. 82a-1036 et seq., or
- (2) to use water in a manner so that there is no significant net consumptive use of the local source of supply either in quantity or availability of water for use by other appropriators.

(c) If a total quantity of water that is available for appropriation in any basin, subbasin, stream reach or other hydrologic unit has been determined by the chief engineer prior to the date that application is filed, the total quantity of water authorized by vested rights, prior appropriations, requests by prior unapproved applications and the proposed appropriation shall be determined by the chief engineer.

- (1) If the total quantity of water authorized and requested by applications with earlier filing dates

is less than or equal to the total annual quantity of water determined to be available for appropriation, or if no total quantity of water available was determined by the chief engineer prior to the date the application was filed, the following procedures shall be used by the chief engineer to further evaluate the applications:

(A) K.A.R. 5-3-11 shall be used to evaluate an application to appropriate groundwater from an unconfined aquifer;

(B) K.A.R. 5-3-14 shall be used to evaluate an application to appropriate groundwater from a confined aquifer; or

(C) K.A.R. 5-3-15 shall be used to evaluate an application to appropriate surface water.

(2) If the total quantity of water authorized and requested exceeds the limit determined by the chief engineer pursuant to this subsection, the application shall be denied or considered only for the quantity available. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-11. Availability of water for appropriation-safe yield; unconfined groundwater aquifers. (a) Each application to appropriate groundwater from an unconfined aquifer shall be processed in accordance with this regulation.

(b) To determine the safe yield available for appropriation from an unconfined aquifer at a specific location, the following procedure shall be used by the chief engineer:

(1) The amount of calculated recharge occurring within the area of consideration shall be determined by the chief engineer.

(2) That amount shall be multiplied by the percent of calculated recharge determined by the chief engineer to be available nondomestic groundwater and surface water for appropriation.

(3) The total quantity of water authorized and requested in the same area of consideration shall be subtracted from the number derived from paragraph (b)(2) above. If a water right or permit authorizes more than one point of diversion and not all of them are within the area of consideration, the authorized quantity shall be divided equally between or among all the points of diversion, unless information is available to more accurately distribute the authorized quantity between or among the multiple points of diversion.

(c) (1) If the quantity of water remaining is sufficient to satisfy the proposed application, then the safe yield criteria shall be deemed to have

been met, unless there are other relevant factors that need to be taken into account in order to protect the public interest. The application shall then be processed according to other criteria in effect in that area.

(2) If there is sufficient water available to reasonably satisfy part of the request, then the application shall be approved for the quantity available if the remaining quantity is reasonable for the proposed use and the application meets the other applicable criteria in that area.

(3) If no water is available to satisfy the proposed application, then the application shall be denied by the chief engineer.

(d)(1) In making a safe yield calculation, unless the context clearly requires otherwise, the following words and phrases shall have the meanings ascribed to them:

(A) "Circle" means a circle with a two-mile radius, with the proposed point of diversion as the center.

(B) "Area of consideration" means the portion of the two-mile circle located within the limits of the unconfined aquifer expressed in acres, including any area of the circle located within the boundaries of a groundwater management district. The area of consideration shall not include any portion of the circle located outside the state of Kansas.

(C) "Total quantity of water" means the total combined authorized annual quantities under all groundwater rights and approvals of applications, and requested by pending applications with a senior priority in that unconfined aquifer except for domestic use, temporary permits, and term permits for five or fewer years with priority dates senior to the proposed application and with points of diversion located within the area of consideration.

(D) "Calculated recharge" means that portion of the average annual precipitation that becomes recharge to the unconfined aquifer, calculated using the data shown on water resources investigations report 87-4230, plate no. 4, dated 1987, prepared by the United States geological survey, hereby adopted by reference, interpolated to the nearest tenth of an inch, unless better or more specific recharge data for the area of consideration, basin, or aquifer is supplied by the applicant or is already available to the chief engineer.

(2) The calculated recharge in the Kansas river alluvium shall be determined by taking 25% of the average annual rainfall in the area of consideration as taken from figure 2, United States geological

(3) For each application to appropriate groundwater from an unconfined aquifer filed on or after the effective date of this regulation, the percentages of calculated recharge that shall be considered to be available for appropriation shall be determined using the following table:

River Basin

- | | |
|---|--|
| (A) 100% plus the recharge from the Missouri River available to the well, as calculated by a Jenkins or similar stream-depletion technique. | Missouri |
| (B) 100% | Arkansas River below Hutchinson°
Big Blue River °°
Black Vermillion River °°
Delaware River °°
Little Arkansas River below GMD No. 2 °
Little Blue River °°
Little Osage River °°
Lower Republican River Basin outside the effective alluvium and the Belleville formation that does not contribute significant baseflow to a stream°°
Marais des Cygnes River °°
Mill Creek °°
Marmaton River °°
Nemaha River °°
Pottawatomie Creek °°
Smoky Hill River below its confluence with the Saline River °°
Spring River °
Stranger Creek °°
Sugar Creek °°
Vermillion Creek °°
Wakarusa River °°
Walnut River °
Any hydrologic unit that does not contribute significant baseflow to a stream. |
| (C) 75% | Any hydrologic units in the following river basins that contribute significant baseflow to a stream:
Arkansas River above Hutchinson°
Caney River °
Cottonwood River °
Cow Creek outside the boundaries of GMD No. 2 and GMD No. 5° |

River Basin

- (D) 50%
- Elk River °
 - Fall River °
 - Kansas River °°
 - Little Arkansas River above GMD No. 2 °
 - Lower Republican River Basin outside the effective alluvium and the Belleville formation that contributes significant baseflow to a stream. °°
 - Neosho River °
 - Ninnescah River °
 - Saline River °°
 - Salt Creek °°
 - Smoky Hill above its confluence with the Saline River °°
 - Solomon River °°
 - South Fork Ninnescah River (except Smoots Creek) °
 - Upper Republican Basin outside areas closed to new appropriations as set forth in paragraph (d)(5) of this regulation. °°
 - Verdigris River °
 - Any other basin in Kansas not specifically identified
 - Any hydrologic units in the following river basins that contribute significant baseflow to a stream:
 - Bluff Creek-Chikaskia River °
 - Bluff Creek-Cimarron River °
 - Chikaskia River °
 - Cimarron River outside GMD No. 3 °
 - Medicine Lodge River °
 - North Fork Ninnescah River °
 - Rattlesnake Creek °
 - Salt Fork Arkansas River °
 - Sandy Creek °
 - South Fork Ninnescah River (Smoots Creek only) °

** Located in Kansas River Basin

(4) The total quantity of water and the percent of calculated recharge originally available to be appropriated for nondomestic groundwater and surface water use in all or part of the following basins, subbasins, stream reaches, and other hydrologic units identified in electronic data file unithsn.e00, dated July 30, 1997, prepared by the division of water resources, Kansas department of

agriculture and hereby adopted by reference for the purpose of defining the boundaries of the hydrologic units, shall be determined using the following table:

South-Central Kansas Designated Unit Areas

Map Label	Effective Date	Area (acres)	Recharge Rate (in/yr)	Recharge Quantity (Ac-ft/yr)	Percentage of Recharge to Appropriate	Original Quantities Available (Ac-ft/yr)	General Location (Twp.-Range)	Abbreviation for Portion of Basin or Basins
1	November 28, 1994	32204	1.8	4831	100%	4831	29-12w	Chikaskia
2	November 28, 1994	41426	1.8	6214	100%	6214	30-11w	Chikaskia
3	November 28, 1994	55524	1.8	8329	50%	4164	29-10w	Chikaskia
4	November 28, 1994	43603	1.8	6540	50%	3270	30-10w	Chikaskia
5	November 28, 1994	46828	2.0	7805	50%	3902	31-05w	Chikaskia
6	November 28, 1994	46895	2.5	9770	50%	4885	33-03w	Chikaskia
7	November 28, 1994	37378	3.0	9344	50%	4672	34-02w	Chikaskia
8	November 28, 1994	42210	3.0	10553	50%	5276	33-01w	Chikaskia
9	November 28, 1994	15145	2.0	2524	100%	2524	30-08w	Chikaskia
10	November 28, 1994	6855	2.0	1143	100%	1143	31-06w	Chikaskia
11	November 28, 1994	2824	2.0	471	100%	471	31-06w	Chikaskia
12	November 28, 1994	8548	2.0	1425	100%	1425	31-05w	Chikaskia
13	November 28, 1994	12165	2.0	2027	50%	1014	31-07w	Chikaskia
14	November 28, 1994	27213	2.0	4535	50%	2268	32-05w	Chikaskia
15	November 28, 1994	21101	1.5	2638	50%	1319	31-15w	Medicine Lodge
16	November 28, 1994	7489	1.5	936	50%	468	32-11w	Medicine Lodge
17	November 28, 1994	20516	1.5	2564	50%	1282	33-11w	Medicine Lodge
18	November 28, 1994	34426	1.5	4303	50%	2152	29-19w	Rattlesnake
19	November 28, 1994	25566	1.5	3196	50%	1598	29-18w	Medicine Lodge
20	November 28, 1994	56730	1.8	8509	100%	8509	29-14w	Medicine Lodge
21	November 28, 1994	41800	1.8	6270	50%	3135	30-12w	Medicine Lodge
22	November 28, 1994	15825	1.2	1582	50%	791	30-17w	Medicine Lodge
23	November 28, 1994	59864	1.5	7483	50%	3742	29-16w	Medicine Lodge
24	November 28, 1994	37658	1.5	4707	100%	4707	29-15w	Medicine Lodge
25	November 28, 1994	102144	1.9	16173	75%	12130	28-09w	SF Ninnescah
26	November 28, 1994	10638	2.0	1773	75%	1330	28-07w	SF Ninnescah
27°	Revision	84047	2.0	14008	50%	7004	26-07w	SF Ninnescah
28	November 28, 1994	5196	2.2	953	75%	714	28-04w	SF Ninnescah
29	November 28, 1994	73816	1.9	11688	100%	11688	28-07w	Chik/SFNin/Nin
30	November 28, 1994	38651	2.0	6442	100%	6442	30-05w	Chik/SFNin/Nin/Ark
31	November 28, 1994	5572	2.3	1068	100%	1068	31-04w	Chik/Ark
32	November 28, 1994	21937	2.0	3656	100%	3656	27-07w	SF Ninnescah
33	November 28, 1994	40646	2.5	8468	75%	6351	23-08w	Arkansas
34	November 28, 1994	41974	2.3	8045	75%	6034	24-08w	NF Ninnescah
35	November 28, 1994	3917	2.0	653	75%	490	26-08w	NF Ninnescah
36	November 28, 1994	12106	2.0	2018	75%	1513	27-10w	NF Ninnescah
37	November 28, 1994	8135	2.0	1356	75%	1017	26-08w	NF Ninnescah
38°	Revision	34550	1.2	3455	50%	1728	32-20w	Bluff Creek (Cim)
39	November 28, 1994	21875	1.2	2188	50%	1094	33-20w	Bluff Creek (Cim)
40	November 28, 1994	11466	1.2	1147	50%	573	33-20w	Bluff Creek (Cim)
41	November 28, 1994	8565	1.6	1142	50%	571	34-17w	Salt Fork Arkansas
42	November 28, 1994	3746	1.6	499	50%	250	33-15w	Salt Fork Arkansas
43	November 28, 1994	9763	1.6	1302	50%	651	34-15w	Salt Fork Arkansas
44	November 28, 1994	33060	1.8	4959	100%	4959	31-10w	Sandy Cr
45	November 28, 1994	3922	1.8	588	100%	588	33-09w	Sandy Cr
46	November 28, 1994	26959	1.8	4044	50%	2022	32-10w	Sandy Cr
47	November 28, 1994	41296	1.8	6194	50%	3097	34-09w	Sandy Cr
48	November 28, 1994	36364	1.9	5758	50%	2879	31-08w	Bluff Creek (Chik)
49	November 28, 1994	45511	2.0	7585	50%	3793	32-07w	Bluff Creek (Chik)
50	November 28, 1994	23546	2.3	4513	50%	2257	34-06w	Bluff Creek (Chik)
51	November 28, 1994	25608	2.7	5762	50%	2881	35-03w	Bluff Creek (Chik)
52	November 28, 1994	4460	1.9	706	100%	706	32-09w	Sandy Cr
53	November 28, 1994	17083	2.0	2847	100%	2847	33-08w	Sandy Cr/Bluf (Chik)
54	November 28, 1994	3845	2.0	641	50%	320	32-08w	Sandy Cr/Bluf (Chik)
55	July 5, 1996	3582	1.2	358	50%	179	35-18w	Cimarron

Map Label	Effective Date	Area (acres)	Recharge Rate (in/yr)	Recharge Quantity (Ac-ft/yr)	Percentage of Recharge to Appropriate	Original Quantities Available (Ac-ft/yr)	General Location (Twp.-Range)	Abbreviation for Portion of Basin or Basins
56	July 5, 1996	10967	1.2	1097	50%	548	35-19w	Cimarron
57	July 5, 1996	37387	1.2	3739	50%	1869	34-20w	Cimarron
58	July 5, 1996	3379	1.3	366	50%	183	33-21w	Cimarron
59	July 5, 1996	5885	1.3	638	50%	319	35-22w	Cimarron
60	July 5, 1996	14854	1.3	1609	50%	805	33-22w	Cimarron
61	July 5, 1996	34080	1.3	3692	50%	1846	34-22w	Cimarron
62	July 5, 1996	25419	1.3	2754	50%	1377	31-17w	Salt Fork
63	July 5, 1996	29813	1.3	3230	15%	484	32-17w	Salt Fork
64	July 5, 1996	90035	1.3	9754	50%	4877	31-18w	Salt Fork
65	July 5, 1996	35931	1.3	3893	50%	1946	31-19w	Bluff Creek
66	July 5, 1996	100983	1.3	10940	50%	5470	30-20w	Bluff-Rattlesnake
67	July 5, 1996	111132	1.2	11113	50%	5557	30-24w	Bluff-Crooked
68	July 5, 1996	12188	1.2	1219	50%	609	31-23w	Cimarron
69	July 5, 1996	5518	1.2	552	50%	276	31-24w	Cimarron
70	July 5, 1996	32689	1.2	3269	50%	1634	32-25w	Cimarron
71	July 5, 1996	94734	1.3	10263	50%	5131	32-26w	Cim-Crooked
72	July 5, 1996	44833	1.3	4857	50%	2428	33-27w	Cim-Crooked
73	July 5, 1996	50088	1.3	5426	50%	2713	34-27w	Cim-Crooked
74	July 5, 1996	25210	1.3	2731	50%	1366	35-27w	Cim-Crooked
75	July 5, 1996	103816	1.3	11247	50%	5623	34-24w	Cim-Crooked
76	July 5, 1996	23296	1.2	2330	50%	1165	30-22w	Bluff-Rattlesnake
77	July 5, 1996	27666	1.2	2767	50%	1383	32-15w	Salt-Medicine
78	July 5, 1996	5261	1.2	526	100%	526	35-13w	Salt Fork
79	July 5, 1996	8249	1.8	1237	50%	619	31-12w	Medicine

* Revision is effective the date of this regulation.

(5) The following hydrologic units, which have been determined by the chief engineer to be fully appropriated based on the safe yield criteria, shall be closed to further new surface water and groundwater appropriations except for domestic use, temporary permits, and term permits for five years or less:

(A) Big Creek, its tributaries and their valley alluviums, and any other aquifer that has a substantial hydraulic connection to an alluvium;

(B) Beaver Creek and Little Beaver Creek, their tributaries and their alluviums, and any other aquifer that has a substantial hydraulic connection to an alluvium;

(C) North Fork Solomon River, its tributaries and their alluviums, and any other aquifer that has a substantial hydraulic connection to an alluvium;

(D) Prairie Dog Creek, its tributaries and their alluviums, and any other aquifer that has a substantial hydraulic connection to an alluvium;

(E) Sappa Creek, its tributaries and their alluviums, and any other aquifer that has a substantial hydraulic connection to an alluvium;

(F) South Fork of the Solomon River, its tributaries and their alluviums above Glen Elder Dam, and any other aquifer that has a substantial hydraulic connection to an alluvium; and

(G) Walnut Creek, its tributaries and their alluviums, and other hydraulically connected aquifers outside the boundaries of the intensive groundwater use control area created by order of the chief engineer shall be those set forth below:

Section	Township	Range	County
28 through 33	18S	23W	Barton
4 through 10 and 14 through 36	18S	14W	Barton
1 through 36	18S	25W	Barton
3 through 11 and 14 through 23	29S	13W	Barton
1 through 6, 9 through 15, and 22 through 24	29S	14W	Barton
1	19S	15W	Barton
31 through 35	17S	16W	Rush
19 through 36	17S	17W	Rush
19 through 36	17S	18W	Rush
23 through 26 and 31 through 36	17S	19W	Rush
35 and 36	17S	20W	Rush
1 through 36	18S	16W	Rush
1 through 36	18S	17W	Rush
1 through 36	18S	18W	Rush
1 through 36	18S	19W	Rush
1 through 36	18S	20W	Rush
3 through 6	19S	16W	Rush
1 through 6	19S	17W	Rush
1, 2, 11, and 12	19S	20W	Rush
32 through 34	17S	25W	Ness

Section	Township	Range	County
1 through 36	18S	21W	Ness
1 through 4 and 7 through 36	18S	22W	Ness
19, 25 through 36	18S	23W	Ness
23 through 27, 35, and 36	18S	24W	Ness
1 through 5, 10 through 13, 24, 33, and 34	28S	25W	Ness
4 through 9	19S	21W	Ness
1 through 12, 17 and 18	19S	22W	Ness
1 through 23	19S	23W	Ness
1, 2, and 7 through 29	19S	24W	Ness
1 through 3 and 11 through 13	19S	25W	Ness

(6) “Technical guidelines for determining the availability of groundwater for appropriation in the Lower Republican River Basin and Belleville Formation and the availability of surface water for appropriation in the Lower Republican River Basin,” adopted by the chief engineer, division of water resources, Kansas department of agriculture, on October 1, 1999, is hereby adopted by reference as determining the availability of groundwater for appropriation in the lower Republican River basin and Belleville formation and the availability of surface water for appropriation in the lower Republican River basin.

(7) (A) All applications for a permit to appropriate groundwater from the area described in paragraph (7) (B) for any beneficial use, except for domestic use, temporary permits, and short-term permits for five or fewer years, shall be accepted for filing and given a file number, if acceptable for filing. The application shall be returned by the chief engineer, and the reason that the application will be denied shall be specified by the chief engineer. The applicant shall be given 30 days to show cause why the application should not be denied. If the applicant does not show good cause, the application shall be dismissed.

(B) The area is described as sections 17, 18, 19, 20, township 7 south, range 6 west, and sections 13, 14, township 7 south, range 7 west, all in Mitchell County, Kansas.

(C) All applications for permits to appropriate groundwater from sections 29 and 30 in township 7 south, range 6 west, and sections 12, 15, 16, 21, 22, 23, 24, 25, 26, and 27 in township 7 south, range 7 west, all in Mitchell County, Kansas, for any beneficial use, except for domestic use, temporary permits, and term permits for five or fewer years, shall be processed based on the criteria set forth below in paragraph (7) (D).

(D) No new wells shall be allowed in the area described in paragraph (7) (C) above if the proposed well would produce one foot or more of additional drawdown at any existing well in that area and if the proposed well was pumped continuously for 45 days (1,080 hours) at the rate requested on the application. This analysis shall be done by using the Theis equation, with a coefficient of transmissivity of 71,000 gallons per day per foot (gpd/ft) and a coefficient of storage of 0.02.

(E) Any application for a change in the point of diversion filed for a well located in the areas described in paragraphs (7) (B) and (C) above shall be limited to a move of no more than 100 feet, unless the applicant can show the chief engineer that the proposed move will not prejudicially and unreasonably affect the public interest, will not impair existing water rights, and otherwise complies with the provisions of K.S.A. 82a-708b, and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711; effective Nov. 28, 1994; amended Sept. 22, 2000.)

5-3-12. (Authorized by K.S.A. 82a-701(g), 82a-706a; effective May 1, 1980; revoked May 1, 1987.)

5-3-13. Dewatering of construction sites. The chief engineer shall limit the time in which water may be withdrawn for dewatering purposes. Any water right that may be perfected by the dewatering project shall be deemed abandoned and terminated upon the completion of the dewatering project. Any extension of time in which to complete the project must be requested in writing by the applicant prior to the expiration date on the permit. (Authorized by K.S.A. 82a-706a, 82a-712; effective May 1, 1980.)

5-3-14. Availability of water for appropriation - safe yield; confined groundwater aquifers. (a) Each application to appropriate water from a confined aquifer shall be processed on a case by case basis so that the safe yield of the source of water supply is not exceeded.

(b) Until a specific regulation is adopted by the chief engineer for the confined source of water supply, the analysis shall be made using the best information reasonably available to the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-15. Availability of water for appro-

priation - safe yield; surface water. (a) Each application filed to directly divert the natural flow of the Kansas river, the Missouri river, the Big Blue river, the Spring river, or their tributaries, shall:

(1) be processed in accordance with K.A.R. 5-3-9; and

(2) meet all other requirements for the approval of a new application.

(b) The water right owner shall be required by the chief engineer to meet minimum desirable streamflows (MDS), assurance district target flows (assurance target flows) and division of water resources (DWR) target flows where applicable.

(c) Each application filed to directly divert the natural flow from any stream or tributary in the state of Kansas, except those streams listed in paragraph (a) of this regulation, shall have the following conditions of approval.

(1) If MDS or assurance target flows or DWR target flows have been set for that stream, and MDS administration has been requested by the Kansas water office, diversion of natural flow shall only be permitted if MDS, assurance target flows or DWR target flows, if applicable, are being met at the gage or gages immediately below the proposed point of diversion.

(2) Diversion of natural flow shall not take place unless there is water available to satisfy all demands by senior water rights and permits.

(3) The streamflow shall not be stopped at the first riffle below the point of diversion while diversion is taking place under the authority of that water right or permit.

(4) During the period October 1 through June 30, the verbal or written permission of the chief engineer, or an authorized representative of the chief engineer, shall be obtained in order to divert water each time the applicant desires to divert water.

(5) The applicant shall be required to demonstrate that the direct diversion of streamflow is not necessary during the period July 1 through September 30 each calendar year because of lack of need; the availability of adequate water storage or alternative water supplies; or other similar reasons.

(6) During the period July 1 through September 30 each calendar year, no direct diversions of water shall be permitted unless written permission is obtained from the chief engineer or the chief engineer's authorized representative.

(d) Each application filed by a member of an operational assurance district for that stream shall be processed taking into consideration the provisions of the assurance district contract.

(e) Each application filed for a point of diversion which might divert water released from storage pursuant to an agreement between the state of Kansas and the federal government shall be processed taking into consideration the provisions of that agreement.

(f) Each application filed to divert the natural flow of any stream subject to a more specific regulation adopted by the chief engineer or an intensive groundwater use control area order issued by the chief engineer, for a basin or portion thereof, shall be processed in accordance with the provisions of that regulation or order. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-16. Safe yield; exemptions for up to 15 acre-feet of groundwater.

(a) Each application to appropriate groundwater in any area of the state shall be exempt from meeting the safe yield criteria if all of the conditions in subsection (b) are met.

(b)(1) The proposed point of diversion will be located in an area that is outside a groundwater management district that is subject to safe yield criteria and meets either of the following conditions:

(A) Is not closed by regulation or intensive groundwater use control area order by the chief engineer to new nondomestic, nontemporary permits, and term permits for more than five years; or

(B) has not exceeded the quantity of water available to be appropriated in the hydrologic unit as set forth in K.A.R. 5-3-11.

(2) The sum of the annual quantity requested by the proposed appropriation and the total annual quantities authorized by prior permits and water rights allowed because of an exemption pursuant to this regulation does not exceed 15 acre-feet in a two-mile-radius circle surrounding the proposed point of diversion.

(3) The approval of the application does not authorize an additional quantity of water to be diverted from an existing authorized well with a nondomestic permit or water right, which would result in a total combined annual quantity of water authorized from that well in excess of 15 acre-feet.

(4) The approval of the application does not au-

thorize an additional quantity of water to be used on a currently authorized nondomestic place of use in excess of 15 acre-feet.

(5) The maximum authorized rate of diversion does not exceed 50 gallons per minute.

(6) All other criteria for processing a new application to appropriate water at that location have been met.

(c) After an application has been approved pursuant to this regulation, no application to change that water right shall be approved if that approval would authorize the water use approved under that application to be diverted from any other point of diversion authorized at the time the application is filed or to be used on any other place of use authorized at the time the application for change is filed. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 2007 Supp. 82a-711; effective Nov. 28, 1994; amended Sept. 22, 2000; amended Oct. 31, 2008.)

5-3-16a. Closed areas; exemptions for up to five acre-feet of groundwater. In any area of the state that is outside a groundwater management district and an intensive groundwater use control area (IGUCA) and that is closed to new appropriations of groundwater by regulation except for domestic use, temporary permits, and term permits for five or fewer years, applications to appropriate groundwater shall be exempt from meeting the safe yield criteria and the regulation closing the area to new appropriations if the chief engineer finds that all of the following criteria are met: (a) The sum of the annual quantity of water requested by the proposed appropriation and the total annual quantities of water authorized by prior approvals of applications allowed because of an exemption pursuant to this regulation does not exceed five acre-feet in a two-mile-radius circle surrounding the proposed point of diversion.

(b) The annual quantity of water requested is reasonable for the proposed beneficial use of water.

(c) All other criteria for processing a new application to appropriate water at that location, including well spacing criteria, have been met.

(d) The approval of the application does not authorize an additional quantity of water out of an existing well that would result in a total combined annual quantity of water authorized from that well in excess of five acre-feet per calendar year.

(e) The proposed beneficial use of water will

significantly benefit the public interest and help maximize economic development. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, and K.S.A. 2002 Supp. 82a-1904; effective Oct. 24, 2003.)

5-3-17. Safe yield; miscellaneous exemptions. In any area of the state which is subject to safe yield criteria, and outside a groundwater management district or an intensive groundwater use control area closed to new non-domestic, non-temporary uses, each application to appropriate groundwater for a beneficial use shall be exempt from meeting the safe yield criteria if the chief engineer finds that:

(a) the proposed use has occurred continuously since prior to the effective date of this regulation;

(b) the proposed use could have reasonably been classified by the division of water resources as a domestic use at the time the use began; and

(c) all other requirements in effect for the approval of a new application to appropriate water at that location have been met. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-18. Applicant's opportunity to submit additional information. (a) If at any stage of processing an application, it is determined by the chief engineer that an application does not meet the safe yield criteria, the applicant shall be notified by the chief engineer in writing prior to denial of the application that the safe yield requirements have not been met and the reason for the proposed denial. In this written notice, the chief engineer shall allow the applicant 15 days to request time in which to submit additional information to show why the application should be approved.

(b) Within 15 days the applicant shall either submit the additional information or file a written request for a reasonable amount of time to submit an engineering report or similar type of hydrologic analysis to show that approval of the application will not cause the safe yield of the source of water supply to be exceeded.

(c) If the applicant fails to timely show to the satisfaction of the chief engineer that the application can be approved, then the application shall be denied by the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective Nov. 28, 1994.)

5-3-19. Maximum reasonable annual

quantity of water for irrigation use. (a) For applications filed before the effective date of this regulation, the maximum annual quantity of water reasonably necessary to irrigate crops shall be determined as follows:

(1) In that area of Kansas located between the eastern border of Kansas and the western border of range 6 east, the maximum reasonable annual quantity of water shall not exceed one acre-foot of water per acre irrigated.

(2) In that area of Kansas located between the eastern border of range 5 east and the western border of range 20 west, the maximum reasonable annual quantity of water shall not exceed 1½ acre-feet of water per acre irrigated.

(3) In that area of Kansas located between the eastern border of range 21 west and the western border of Kansas, the maximum reasonable annual quantity of water shall not exceed two acre-feet of water per acre irrigated.

(b) On and after the effective date of this regulation, the maximum annual quantity of water reasonably necessary to irrigate crops shall be determined by multiplying the number of irrigated acres by the county value found on the map adopted by reference in K.A.R. 5-3-24. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 82a-707(e), and K.S.A. 2002 Supp. 82a-711; effective Sept. 22, 2000; amended Oct. 24, 2003.)

5-3-20. Maximum reasonable annual quantity of water approvable for a new appropriation of water for irrigation use. (a) The maximum reasonable annual quantity of water that may be approved for use on irrigated land for applications filed before the effective date of this regulation shall be limited to the following:

(1) The quantity of water available for appropriation as determined by the safe yield, allowable appropriation or similar type of limitation adopted by regulation of the chief engineer for the area in which the proposed point of diversion will be located;

(2) the quantity of water reasonably physically available from the source of water supply based on the physical characteristics of the source of water supply and the proposed diversion works; and

(3) the quantity of water reasonably necessary to irrigate crops in the region of the state where the proposed place of use is located as set forth in K.A.R. 5-3-19(a). The authorized quantity shall be determined by multiplying the number of acres

approved to be irrigated by the quantity per acre set forth in K.A.R. 5-3-19(a).

(b) The maximum reasonable annual quantity of water that may be approved for use on irrigated land for applications filed on or after the effective date of this regulation shall be limited to the following:

(1) The quantity of water available for appropriation as determined by the safe yield, allowable appropriation or similar type of limitation adopted by regulation of the chief engineer for the area in which the proposed point of diversion will be located;

(2) the quantity of water reasonably physically available from the source of water supply based on the physical characteristics of the source of water supply and the proposed diversion works; and

(3) the quantity of water reasonably necessary to irrigate crops in the region of the state where the proposed place of use is located as set forth in K.A.R. 5-3-19(b).

(c) The quantity specified in subsection (a) or (b) may be exceeded only if the applicant demonstrates both of the following to the chief engineer:

(1) Because of specialty crops or other unusual conditions, the quantity specified in K.A.R. 5-3-19 is insufficient.

(2) The requested quantity is reasonable for the intended irrigation use, is not wasteful, and will not otherwise prejudicially and unreasonably affect the public interest. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-3-21. Perfection of a water right for irrigation use. (a) For applications with a priority date before the effective date of this regulation, the maximum reasonable annual quantity of water that may be perfected for irrigation use shall not exceed the following:

(1) The maximum annual quantity of water actually applied to beneficial use in any one calendar year in accordance with the terms, conditions, and limitations of the approval of application during the perfection period; and

(2) the quantity of water reasonably necessary to irrigate crops in the region of the state where the place of use is located as set forth in K.A.R. 5-3-19(a). The reasonable quantity shall be determined by multiplying the number of acres actually

irrigated during the year of record by the quantity per acre as set forth in K.A.R. 5-3-19(a).

(b) For applications with a priority date on or after the effective date of this regulation, the maximum reasonable annual quantity of water that may be perfected for irrigation use shall not exceed the following:

(1) The maximum annual quantity of water actually applied to beneficial use in any one calendar year in accordance with the terms, conditions, and limitations of the approval of application during the perfection period; and

(2) the quantity of water reasonably necessary to irrigate crops in the region of the state where the place of use is located as set forth in K.A.R. 5-3-19(b). The reasonable quantity shall be determined by multiplying the number of acres actually irrigated during the year of record by the quantity per acre set as forth in K.A.R. 5-3-19(b).

(c) The quantity specified in subsection (a) or (b) may be exceeded only if the water right owner demonstrates both of the following to the chief engineer:

(1) Because of specialty crops or other unusual conditions, the quantity specified in K.A.R. 5-3-19 was insufficient.

(2) A greater quantity was reasonable for the intended irrigation use, was not wasteful, and did not otherwise prejudicially and unreasonably affect the public interest. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e) and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-3-22. Maximum reasonable quantity of water for livestock and poultry. (a) The following quantities shall be deemed the maximum quantity of water reasonable for nondomestic livestock and poultry water use:

Livestock/ poultry	Drinking water (gallons per head per day)	Additional quantities for servicing/flushing (gallons per head per day)
Cattle, beef	15	0 (open lot) 100 [confined building capacity (cbc)]
Cattle, dairy	35	100 (cbc)
Swine		
finishing	5	15 (cbc)
nursery	1	4 (cbc)
sow and litter	8	35 (cbc)
gestating sow	6	25 (cbc)

Livestock/ poultry	Drinking water (gallons per head per day)	Additional quantities for servicing/flushing (gallons per head per day)
Sheep	2	0 (open lot) 15 (cbc)
Horses	12	0 (open lot) 100 (cbc)
Poultry		
chickens (100)	9	200 (cbc)
layers	30	400 (cbc)
turkeys (100)		

(b) The maximum reasonable quantity of water that may be approved for nondomestic livestock and poultry use for applications approved on or after the effective date of this regulation shall be limited as set forth in subsection (a) above. The quantities set forth in subsection (a) may be exceeded only if the applicant demonstrates both of the following to the chief engineer:

(1) The requested quantity is reasonable for the intended use.

(2) This quantity is not wasteful and will not otherwise prejudicially and unreasonably affect the public interest.

(c) For all other types of nondomestic livestock, poultry, birds, and animals, the maximum quantity of water approved for beneficial use shall be reasonable.

(d) The maximum reasonable quantity of water that may be perfected for nondomestic livestock or poultry use shall not exceed the quantities set forth in subsections (a), (b) and (c) above, unless the water right owner demonstrates both of the following to the chief engineer:

(1) A larger quantity of water was actually applied to beneficial use within the terms, conditions, and limitations of the permit within the perfection period.

(2) The quantity used was not wasted. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, K.S.A. 82a-712, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-3-23. Maximum reasonable annual quantity approvable for irrigation use for an application for change in place of use and a request to reduce a water right. (a) Except as provided in subsections (c), (d), and (e), for water rights with a priority date before the effective date of this regulation, the maximum reasonable annual quantity of water that may be approved for

either of the following shall be that quantity of water reasonably necessary to irrigate crops in the region of the state where the proposed place of use is located as set forth in K.A.R. 5-3-19(a):

(1) An application for change in place of use for irrigation filed pursuant to K.A.R. 82a-708b and amendments thereto; or

(2) a request to reduce the authorized place of use for irrigation for a water right filed pursuant to K.A.R. 5-7-5.

(b) Except as provided in subsections (c), (d), and (e), for water rights with a priority date on or after the effective date of this regulation, the maximum reasonable annual quantity of water that may be approved for either of the following shall be that quantity of water reasonably necessary to irrigate crops in the region of the state where the proposed place of use is located as set forth in K.A.R. 5-3-19(b):

(1) An application for change in place of use for irrigation filed pursuant to K.A.R. 82a-708b and amendments thereto; or

(2) a request to reduce the authorized place of use for a water right filed pursuant to K.A.R. 5-7-5.

(c) The maximum reasonable quantities approvable in subsections (a) and (b) above shall not exceed either of the following:

(1) The applicable quantity set forth in either subsection (a) or (b) above; or

(2) the maximum quantity of acre-feet per acre authorized by the vested water right or certificate of appropriation, whichever is greater. The maximum authorized quantity of acre-feet per acre shall be calculated by dividing the maximum annual quantity of water authorized at the time the application for change or request to reduce is filed by the number of acres authorized at the time the application for change is filed.

(d) The quantities set forth above in subsections (a), (b), and (c) above may be exceeded only if the applicant demonstrates both of the following to the chief engineer:

(1) Because of specialty crops or other unusual conditions, the quantity specified in K.A.R. 5-3-19(a) is insufficient.

(2) The requested quantity is reasonable for the intended irrigation use, is not wasteful, and will not otherwise prejudicially and unreasonably affect the public interest.

(e) The maximum annual quantity of water approved pursuant to this regulation shall not exceed the maximum annual quantity of water authorized

by the water right at the time the change application is approved. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e) and K.S.A. 1999 Supp. 82a-708b; effective Sept. 22, 2000.)

5-3-24. Reasonable quantity for irrigation use. The Kansas department of agriculture, division of water resources' map titled "reasonable quantities for irrigation use in Kansas, by county," dated October 21, 1999, is hereby adopted by reference. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-3-25. Conditions on permits and certificates. (a) All terms, conditions, and limitations placed on an approval of application by the chief engineer pursuant to the provisions of K.S.A. 82a-712, and amendments thereto, shall remain in full force and effect until expressly modified or removed by the chief engineer.

(b) Unless the terms and conditions are expressly modified or removed by the subsequent approval, certification, or other order of the chief engineer, none of the following shall modify or remove any of the terms, conditions, and limitations placed on the original approval of applications or water right:

(1) The approval of an application to change the place of use, the point of diversion, or the use made of water under the authority of K.S.A. 82a-708b and amendments thereto;

(2) the issuance of a certificate of appropriation pursuant to K.S.A. 82a-714 and amendments thereto; or

(3) the issuance of any other findings and order relative to the approval of application or water right. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-708b, K.S.A. 1999 Supp. 82a-711, K.S.A. 82a-712, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-3-26. Closed townships in Pawnee and Buckner drainage basins in Pawnee, Hodge-man, Ness, and Finney counties. (a) Except as specified in subsection (c), the following townships in the Pawnee and Buckner drainage basins shall be closed to new appropriations of water:

(1) T 20 S;

(A) R 19 W through R 26 W;

(B) R 18 W, section 7 and sections 17 through 36; and

(C) R 17 W, section 31;

- (2) T 21 S:
 - (A) R 30 W, sections 1 through 4, 9 through 16, 21 through 28, and 33 through 36;
 - (B) R 21 W through R 29 W;
 - (C) R 20 W and R 19 W, sections 1 through 6; and
 - (D) R 18 W, sections 1 through 24;
- (3) T 22 S:
 - (A) R 30 W, sections 1 through 4, 9 through 16, 21 through 28, and 33 through 36;
 - (B) R 21 W through R 29 W;
 - (C) R 19 W and R 20 W, sections 13 through 36;
 - (D) R 18 W, sections 20 through 36; and
 - (E) R 17 W, sections 20, 21, and 30;
- (4) T 23 S:
 - (A) R 22 W through R 26 W;
 - (B) R 21 W, sections 1 through 24, and 27 through 32;
 - (C) R 20 W, sections 1 through 18;
 - (D) R 19 W, sections 1 through 12 and 14 through 18; and
 - (E) R 18 W, sections 3 through 10; and
- (5) T 24 S:
 - (A) R 23 W through R 26 W;
 - (B) R 22 W, sections 1 through 23 and 26 through 35; and
 - (C) R 21 W, sections 5, 6, and 7.

(b) Except as specified in subsection (c), all new applications that propose a point of diversion in any of the areas described in subsection (a) that are pending approval on the effective date of this regulation shall be dismissed.

(c) The closure of the townships listed in subsection (a) to new appropriations of water shall not apply to the following types of wells:

- (1) Wells for domestic use;
- (2) wells authorized by temporary permits; and
- (3) wells authorized by term permits of fewer than five years.

This regulation shall be effective on and after October 25, 2002. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 2001 Supp. 82a-711 and K.S.A. 82a-721; effective Sept. 22, 2000; amended, T-5-6-27-02, June 27, 2002; amended Oct. 25, 2002.)

5-3-27. Equus Beds special groundwater quality area. (a) A special groundwater quality area located within the boundaries of the Equus Beds groundwater management district no. 2 shall be hereby established in the following area consisting of approximately 36 square miles in north-

west Harvey County, south-central McPherson County, and northeast Reno County, Kansas:

(1) Sections 3 through 10, 15 through 22, and 27 through 34, of township 22 south, range 3 west, Harvey County;

(2) sections 31 through 34, township 21 south, range 3 west, and section 36, township 21 south, range 4 west, McPherson County; and

(3) sections 1, 12, 13, 25, 26, and 36, township 22 south, range 4 west, Reno County, Kansas.

(b) Each application for a new appropriation of groundwater, a newly constructed well, or a change in the point of diversion for a well within the area shall be reviewed by the chief engineer to determine the effect of the proposed appropriation or well on the movement of saltwater pollution in the area.

(c) A test well log shall accompany each type of application described in subsection (b) within the area described in subsection (a) above and shall include the following information:

- (1) Depth to bedrock;
- (2) a water quality analysis of water taken from the bottom 20 feet of the aquifer, including sodium and chloride concentrations; and
- (3) a water quality analysis of water taken within the top 20 feet of the aquifer, including specific conductance and chloride concentrations.

(d) If the chief engineer can not determine whether the proposed application will affect the movement of saltwater pollution in the area in a manner that is adverse to the public interest or that will cause impairment to other water rights by causing an unreasonable deterioration of the water quality, then the applicant shall submit any information the chief engineer needs to make that determination. The information shall be submitted within a reasonable time period specified by the chief engineer.

(e) The chief engineer shall submit the proposed application to the board of the Equus Beds groundwater management district no. 2 for its review and recommendation. The board shall have 30 days to review the application and provide its recommendation to the chief engineer. The recommendation of the board shall be considered by the chief engineer in making a decision as to whether the application can be approved as filed or modified.

(f) The application shall be dismissed and its priority forfeited if either of the following conditions is met:

- (1) The chief engineer determines that approval

of the application will affect the movement of saltwater pollution in the area in a manner that will prejudicially and unreasonably affect the public interest or that will cause impairment to other water rights by causing an unreasonable deterioration of the water quality because of saltwater pollution.

(2) The applicant fails to submit the information requested by the chief engineer within the time specified.

(g) The application shall be approved if both of the following conditions are met:

(1) The chief engineer determines that the approval of the application, as filed or modified, will not affect the movement of saltwater pollution in the area in a manner that is adverse to the public interest and will not cause impairment to other water rights by causing an unreasonable deterioration of the water quality because of saltwater pollution.

(2) The application meets all other statutory and regulatory criteria.

(h) In addition to reporting the information normally required in the water use reports required by K.S.A. 82a-732, and amendments thereto, each owner of a water right or approval of application shall also report the depth to the static water level in each well, in a manner acceptable to the chief engineer.

(i) All groundwater diversion works permitted in the Equus Beds special groundwater quality area shall be equipped with a water flowmeter that meets the specifications adopted by the chief engineer, except for domestic wells, temporary wells, and wells authorized by term permits for fewer than five years. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c, K.S.A. 82a-709, K.S.A. 82a-710, K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-732; effective Sept. 22, 2000.)

5-3-28. Lyons special groundwater quality area. (a) A special groundwater quality area all in Rice County, Kansas, and partially located within the boundaries of the Big Bend groundwater management district no. 5 shall be hereby established in the following described area consisting of approximately 37 square miles in central Rice County, Kansas:

(1) Sections 33, 34, and 35 of township 19 south, range 8 west;

(2) sections 1-4, 9-16, 21-25, township 20 south, range 8 west;

(3) sections 7, 17-21, 27-34, township 20 south, range 7 west; and

(4) sections 3-5, township 21 south, range 7 west.

(b) Each application for a new appropriation of groundwater, a newly constructed well, or a change in point of diversion for a well proposed to be located within the area shall be reviewed by the chief engineer to determine whether the proposed appropriation will have any adverse effect on the movement and remediation of saltwater pollution south and east of Lyons, Kansas.

(c) A test well log shall accompany each type of application filed for a point of diversion described in subsection (b) that is proposed to be located within the area described in subsection (a), and shall include the following information:

(1) Depth to bedrock;

(2) a water quality analysis of water taken from the bottom 20 feet of the aquifer, including analysis of sodium and chloride concentrations; and

(3) a water quality analysis of water taken within the top 20 feet of the aquifer, including analysis of sodium and chloride concentrations.

(d) If the chief engineer can not determine whether the proposed application will affect the movement and cleanup of saltwater pollution south and east of Lyons in a manner that is adverse to the public interest or that will cause impairment to other water rights by causing an unreasonable deterioration of the water quality, then the applicant shall submit any information the chief engineer needs to make that determination. The information shall be submitted within a reasonable time period specified by the chief engineer.

(e) If the proposed point of diversion is located within the district, the proposed application shall be submitted by the chief engineer to the board of the district for review and recommendation. The board shall have 30 days to review the application and submit its recommendation to the chief engineer. The recommendation of the board shall be considered by the chief engineer in making a decision as to whether the application can be approved as filed or modified.

(f) The application shall be dismissed and its priority forfeited if either of the following conditions is met:

(1) The chief engineer determines that approval of the application will affect the movement and cleanup of saltwater pollution south and east of Lyons in a manner that prejudicially and unrea-

sonably affects the public interest or that will cause impairment to other water rights by causing an unreasonable deterioration of the water quality because of saltwater pollution.

(2) The applicant fails to submit the information requested by the chief engineer within the time specified.

(g) The application shall be approved if both of the following conditions are met:

(1) The chief engineer determines that the approval of the application, as filed or modified, will not affect the movement and cleanup of saltwater pollution south and east of Lyons in a manner that would prejudicially and unreasonably affect the public interest and will not cause impairment to other water rights by causing an unreasonable deterioration of the water quality because of saltwater pollution.

(2) The application meets all other applicable statutory and regulatory criteria. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c, K.S.A. 82a-709, K.S.A. 82a-710, K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-732; effective Sept. 22, 2000.)

5-3-29. Ozark and Springfield plateau aquifers. (a) Except as specified in subsections (b) and (c), the Ozark aquifer and the Springfield plateau aquifer in the following townships in Cherokee, Crawford, Allen, Bourbon, Neosho, and Labette counties in Kansas shall be closed to new appropriations of water: ranges 20 east through 25 east and townships 26 south through 35 south.

(b) The closure of townships listed in subsection (a) to new appropriations of water shall not apply to the following types of wells:

- (1) Wells for domestic use;
- (2) wells authorized by temporary permits;
- (3) wells meeting the requirements of K.A.R. 5-3-16a; and
- (4) wells meeting both of the following conditions:

(A) Are authorized by a term permit of five or fewer years, which can be extended by the chief engineer not beyond December 31, 2010, and over which the chief engineer retains jurisdiction to dismiss or amend if necessary to prevent impairment of the water quantity, rate, or quality or to otherwise protect the public interest; and

(B) are used as an alternate source of water supply that is actively being planned, financed,

and constructed and that will be available no later than December 31, 2010.

(c) Notwithstanding the provisions of paragraph (b)(4)(A), the term permits may be extended by the chief engineer beyond December 31, 2010 or may be converted by the chief engineer to regular permits to appropriate water, if both of the following conditions are met:

(1) A study has been completed before December 31, 2010, determining the safe yield of the Ozark aquifer and the Springfield plateau aquifer.

(2) Extending the term of the term permit or converting the term permit to a regular permit to appropriate water will not result in any of the following:

- (A) Causing the safe yield to be exceeded;
- (B) impairing prior permits or water rights; or
- (C) prejudicially and unreasonably affecting the public interest. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-711; effective, T-5-8-23-04, Aug. 23, 2004; effective Nov. 29, 2004.)

Article 4.—DISTRIBUTION OF WATER BETWEEN USERS

5-4-1. Distribution of water between users where a prior right is being impaired. When a complaint is received that a prior right to the use of water is being impaired, the following procedure shall be followed:

1. The complaint shall be made to the chief engineer or his or her authorized representative. A complaint may be accepted verbally, in person or by telephone. No action shall be taken by the agency until the complaint is confirmed in writing.

2. An investigation of the physical conditions involved shall be made by the chief engineer or his or her authorized representative.

3. A written report of the investigation shall be prepared and a copy given to the complainant. If the investigation shows there is no basis for further action by the division the complainant shall be so advised.

4. The complainant shall make a written request to secure water to satisfy his or her prior right.

5. The chief engineer or his or her authorized representative shall give a written legal notice and directive to other water users whose use of water must be regulated to secure water to satisfy the complainant's prior rights.

The request to secure water shall be made on

a prescribed form furnished for that purpose by the division of water resources. All water delivered to the user's point of diversion for his or her use at the specified rate or less shall be applied to the authorized beneficial use and count against the quantity of water specified unless the user notifies the chief engineer or his or her authorized representative that diversion and use will be discontinued for a period of time for good reason.

When the quantity of water needed has been delivered to the user's point of diversion or when the user discontinues his or her use of water, those persons who have been directed to regulate their use shall be notified that they may resume the diversion and use of water.

If the available water supply in the source should increase, the chief engineer or his or her authorized representative may allow some or all of the users regulated to resume use depending on the supply. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-4-2. Protection of releases from storage under low-flow conditions. (a) As used only in this regulation, the following terms shall have the meanings specified in this subsection:

(1) "Low-flow conditions" shall mean that the natural flow below a reservoir is not sufficient to satisfy the demand for water use below the reservoir by known domestic water rights and by permits and water rights of record in the office of the chief engineer.

(2) "Natural flow" shall mean water that is flowing in a river or stream, except water that is entitled to be protected from diversion.

(b) If the owner of a surface water right below a reservoir could physically divert water that has been released from storage under the authority of the state of Kansas or that has been released from storage pursuant to an agreement between the state and federal government and that owner has been notified by the chief engineer that low-flow conditions exist, that owner shall not divert any water under that surface water right without the written permission of the chief engineer.

(c) If the owner of a surface water right described in subsection (b) desires to divert water after being notified that low-flow conditions exist, that owner shall submit a written request to the chief engineer containing all of the following information:

- (1) The water right number;
- (2) the following information for the owner:

(A) Name and telephone number; and

(B) if available, electronic mail address, fax number, and cellular telephone number;

(3) the name and telephone number of any representative authorized by the owner to request and receive permission to divert water under low-flow conditions from the chief engineer. Each request shall also contain, if available, the electronic mail address, cellular telephone number, and fax number of the authorized representative;

(4) the total quantity of water that has been diverted under that water right during that current calendar year; and

(5) the length of time and the maximum rate of diversion which the owner is requesting to divert water.

(d) As soon as practical after receiving the request, the owner may be notified in writing by the chief engineer if any natural flow is available to be diverted under the authority of that water right.

(e) If an owner has been notified that low-flow conditions exist, diversion of any water without the written permission of the chief engineer shall cause the owner to be subject to any enforcement action available to the chief engineer, including levying a civil penalty pursuant to K.S.A. 82a-737, and amendments thereto.

(f) If an owner has been notified that low-flow conditions exist, diversion of water in excess of the rate and quantity authorized by the express written permission of the chief engineer shall cause the owner to be subject to any enforcement action available to the chief engineer, including levying a civil penalty pursuant to K.S.A. 82a-737, and amendments thereto.

(g) Written notice may be issued by the chief engineer to all owners of surface water rights notified pursuant to subsection (b) to inform the owners when low-flow conditions no longer exist. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2007 Supp. 82a-737; effective Oct. 31, 2008.)

5-4-4. Well spacing. (a) The spacing between wells shall be sufficient to prevent direct impairment between wells located in a common source of supply or hydraulically connected sources of supply and to protect the public interest. Except as set forth in subsection (b), the following guidelines shall be used to determine the spacing required between wells permitted by the chief engineer in a common source of supply, unless it is determined by the chief engineer in any

specific instance that the spacing guidelines set forth in this regulation are insufficient to prevent direct impairment or are not necessary to prevent direct impairment.

(b) Whenever an applicant proposes to divert water from a source of supply in a location where there is a significant hydraulic connection between the proposed source of supply and another source or sources of supply, the chief engineer shall determine the spacing necessary to prevent impairment and to protect the public interest on a case by case basis.

(c) Except as set forth in subsection (e) below, each well that is described in an application for a permit to appropriate water for beneficial use or for a term permit, excluding any domestic or temporary well, shall meet the minimum spacing requirements set out in paragraphs (1) and (2) below.

(1) The minimum distance from the well which is the subject of the application to all other senior authorized non-domestic and non-temporary wells in the same aquifer or a hydraulically connected aquifer shall be:

(A) four miles between wells whose common source of supply is the confined Dakota aquifer system;

(B) one-half mile between wells whose common source of supply is the unconfined Dakota aquifer system; and

(C) 1320 feet for wells whose common source of supply is any other aquifer.

(2) In addition to meeting the minimum spacing requirements of paragraph (1) above, the minimum distance from the well which is the subject of the application to all domestic wells, except where the domestic well owner has given the applicant written permission to reduce the spacing interval, shall be:

(A) one-half mile for wells whose common source of supply is the confined Dakota aquifer system;

(B) 1320 feet for wells whose common source of supply is the unconfined Dakota aquifer system; and

(C) 660 feet for wells whose common source of supply is any other aquifer.

(d) Except as provided in subsection (e), the location of a well or wells on an application to change the point of diversion under an existing water right shall either:

(1) meet the spacing requirements in paragraphs (c)(1) and (c)(2) above; or

(2) not decrease the distance to other wells or authorized well locations by more than 300 feet.

(e) This regulation shall not apply if the chief engineer has adopted another regulation, or issued an order pursuant to K.S.A. 82a-1036 *et seq.*, specifying a different well spacing for the source of supply in which the proposed point of diversion is located.

(f) In the case of a battery of wells, the distance shall be measured from the geographic center of the points of diversion comprising the battery.

(g) If the proposed point of diversion does not meet the well spacing requirements in this regulation, the applicant shall be notified by the chief engineer in writing prior to dismissal that the requirements have not been met. The applicant shall then have 15 days to request time in which to submit additional information. Upon written request, the applicant shall be given a specified reasonable amount of time by the chief engineer to submit an engineering or similar type of hydrologic analysis to show that the spacing can be decreased without impairing existing rights or prejudicially and unreasonably affecting the public interest. The burden shall be on the applicant to make such a showing to the satisfaction of the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-711; effective May 31, 1994.)

5-4-5. Approval of application for additional rate only. (a) Except as set forth in subsection (c), an application for a permit to appropriate water for beneficial use that requests only an increase in the authorized rate of diversion, and no net increase in maximum annual quantity, from a specific point of diversion already authorized by another water right or approval of application shall be exempt from complying with any safe yield, allowable appropriation, or similar type of criteria adopted by the chief engineer if both of the following conditions are met:

(1) The application requests only an increase in the authorized maximum rate of diversion of 15 percent or less.

(2) There has been no significant physical enlargement of the capacity of the original diversion works to divert water. If a well has been replaced, reconstructed, and reequipped in accordance with an approval of an application for change by the chief engineer pursuant to K.S.A. 82a-708b and amendments thereto in substantially the same way that the original diversion works were con-

structed, that type of well shall not be considered to be a significant physical enlargement of the diversion works. Conversion to a battery of wells or adding an additional well shall be considered to be a significant physical enlargement of the capacity of the diversion works.

(b) Except as set forth in subsection (c), an application to increase the rate of diversion by more than 15 percent that requests no net increase in maximum annual quantity from a specific point of diversion already authorized by another water right or approval of application shall be exempt from complying with any safe yield, allowable appropriation, or similar type of criteria adopted by the chief engineer if the conditions in either paragraph (b)(1) or (2) are met:

(1)(A) The application was filed within the time authorized to perfect any water right authorizing that point of diversion.

(B) The application is filed to increase the authorized maximum rate of diversion to the rate the original diversion works were physically capable of diverting water under actual maximum operating conditions, or less.

(2) The appropriator demonstrates to the chief engineer that authorizing an increase in the rate of diversion meets the following criteria:

(A) Will not impair existing water rights;

(B) will not prejudicially and unreasonably affect the public interest; and

(C) will not substantially increase the consumptive use in violation of K.A.R. 5-5-3.

(c) If the chief engineer adopts a regulation pertaining to applications for additional rate only for a specific groundwater management district, or issues an order concerning that type of application pursuant to an intensive groundwater use control area (IGUCA) proceeding authorized by K.S.A. 82a-1036 et seq. and amendments thereto, the application for additional rate shall be processed by the chief engineer pursuant to the provisions of that regulation or IGUCA order. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-701(f), K.S.A. 1999 Supp. 82a-711, K.S.A. 82a-712, K.S.A. 82a-1036, K.S.A. 82a-1037, K.S.A. 1999 Supp. 82a-1038, K.S.A. 82a-1039, and K.S.A. 82a-1040; effective Sept. 22, 2000.)

5-4-8. Custodial care of the state. (a) For any groundwater or surface water right placed in the custodial care of the state, the following criteria shall be met by the chief engineer:

(1) Not reappropriate the water authorized to

be diverted by a water right in the custodial care of the state;

(2) continue to include the priority, terms, limitations, authorized rate and quantity, and other conditions of the water right in any analysis or action conducted for the permitting, management, regulation, or administration of other water rights or applications to appropriate water;

(3) not declare the water right abandoned for the nonuse of water. Placement of the water right in the custodial care of the state shall be deemed to be due and sufficient cause for nonuse of a water right pursuant to K.S.A. 82a-718 and amendments thereto; and

(4) not dismiss the water right, unless the chief engineer determines that the geographic area in which the water right is located no longer meets the requirements of K.S.A. 2-1919(2), and amendments thereto, and reopens the area to new appropriations of water.

(b) A water right owner desiring to place a portion of an existing water right in the custodial care of the state shall request the division to divide the water right. Each portion of a divided water right shall be treated as a separate water right and administered accordingly. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(d) and K.S.A. 1999 Supp. 82a-718; effective Sept. 22, 2000.)

Article 5.—CHANGE IN THE PLACE OF USE, THE POINT OF DIVERSION OR THE USE MADE OF WATER UNDER AN EXISTING WATER RIGHT

5-5-1. Filing an application for change.

(a) An application for approval to change the place of use, the point of diversion, the use made of water, or combinations thereof, filed pursuant to K.S.A. 82a-708b and amendments thereto, shall be made on a form prescribed by the chief engineer and shall include whatever information is required by the chief engineer to properly understand the proposed change in the place of use, the point of diversion, the use made of water, or any combination of these.

(b) Before the application may be accepted for filing, the application shall be signed by at least one owner of the water right, or a duly authorized agent of an owner.

(c) Except as set forth in subsection (e), before any approval of an application can be granted, all of the water right owners, including their spouses,

or a duly authorized agent of the owners of the water right, shall verify upon oath or affirmation that the statements contained in the application are true and complete.

(d) If one or more owners refuse to sign the application, or a written request is filed by one or more owners to withdraw their signatures from the application before the application is approved, the application shall be dismissed.

(e) (1) An application to change the location of a groundwater point of diversion that proposes to do only the following shall be signed by at least one owner of the approval of application or water right, or the duly authorized agent, who verifies upon oath or affirmation all of the items specified below in paragraph (e)(2):

(A) Move the location of the well 300 or fewer feet; and

(B) have the new well located on land owned by all the same owners as the owners of the original point of diversion.

(2) (A) The signer of the application for change has the authority to sign the application on behalf of all the owners.

(B) None of the ownership interests of any of the owners of the approval of application or water right will be adversely affected if the application for change is approved as filed.

(C) If the application is not approved expeditiously, there will be substantial damage to property, public health, or safety. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-708b; modified, L. 1978, ch. 460, May 1, 1978; amended Sept. 22, 2000.)

5-5-2. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-708b; effective May 1, 1980; revoked May 1, 1983.)

5-5-2a. Complete change application.

(a) An application to change a water right pursuant to K.S.A. 82a-708b, and amendments thereto, shall be considered to be a "complete application," if the application completely and accurately meets all of the requirements specified in this regulation and the following criteria:

(1) The requirements specified in K.S.A. 82a-708b, and amendments thereto;

(2) any water conservation plans required by the chief engineer pursuant to K.S.A. 82a-733, and amendments thereto;

(3) the requirements specified in K.A.R. 5-5-1;

(4) the requirements specified in K.A.R. 5-5-5;

(5) the requirements specified in K.A.R. 5-3-4d;

(6) a demonstration that the proposed point of diversion meets all applicable well spacing criteria; and

(7) the requirements of K.S.A. 82a-301 through K.S.A. 82a-305a, and amendments thereto, if the proposed point of diversion, or redirection, is a dam or stream obstruction.

(b) If the applicant is requesting a waiver or exemption of a regulation pursuant to K.S.A. 82a-1904, and amendments thereto, the applicant shall submit a written request for the waiver or exemption, and documentation to support the waiver or exemption.

(c) If the proposed point of diversion is located within the boundaries of a groundwater management district, a final recommendation or an analysis of water availability has been received from the groundwater management district within the time allowed by the chief engineer concerning the approval, denial, or modification of the application.

(d) If any questions have been raised concerning whether approval of the application could cause impairment of senior water rights or prejudicially and unreasonably affect the public interest, the applicant shall submit sufficient information to resolve those questions.

(e) If any actions are required to be taken by the applicant on other approvals of applications or water rights owned by the applicant in order to make the application for change approvable, including dismissals, division agreements, reductions in water rights in accordance with K.A.R. 5-7-5, and applications for change, all necessary forms shall be completed and filed with the chief engineer.

(f) If the application involves a change in the place of use or the use made of water, the applicant shall submit all information and data necessary to ensure that the consumptive use will not be increased substantially in violation of K.A.R. 5-5-3.

(g) If the application proposes to add one or more additional wells in accordance with the provisions of K.A.R. 5-5-16, the applicant shall submit all tests, data, and information required by that regulation.

(h) If there is an issue as to whether the water right for which the change application has been filed has been abandoned in whole or in part pursuant to K.S.A. 82a-718, and amendments

thereto, the applicant shall submit whatever information is necessary to resolve all abandonment issues.

(i) Each application shall be accompanied by an aerial photograph or a detailed plat with a scale of one inch equals 1,320 feet, or a U.S. geological survey topographic map with a scale of 1:24,000. The following information shall be plotted on the plat, photograph, or topographic map:

- (1) The section corners;
- (2) the center of the section, identified by the section number, township, and range;
- (3) the actual location of the currently authorized point of diversion and the location of the proposed point of diversion indicated by appropriate symbols;
- (4) the location of the place of use identified by crosshatching or by some other appropriate method;
- (5) the location of all other water wells of every kind within one-half mile of the well or wells to be authorized by the proposed appropriation, each of which shall be identified by its use and the name and mailing address of the owner, if the proposed appropriation is for use of groundwater;
- (6) the name and mailing address of the owner or owners of each tract of land adjacent to the stream for a distance of one-half mile upstream and one-half mile downstream from the property lines of the land owned or controlled by the applicant, if the proposed appropriation is for the use of surface water;
- (7) the locations of proposed or existing dams, dikes, reservoirs, canals, pipelines, power-houses, and other structures for the purpose of storing, conveying, or using water; and
- (8) a north arrow and scale.

All information shown on the photograph, plat, or map shall be legible. Black line prints may be submitted in lieu of the original drawing if a plat is submitted.

(j) The applicant shall certify on the application that all water wells of any kind located within one-half mile of the requested point of diversion have been plotted on the plat, photograph, or map attached to the application.

(k) The applicant shall submit all information and data necessary to demonstrate that the application complies with the applicable regulations adopted by the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-708b, K.S.A. 82a-709, K.S.A. 82a-710, K.S.A. 2002 Supp. 82a-711,

K.S.A. 2002 Supp. 82a-718, K.S.A. 82a-733, and K.S.A. 2002 Supp. 82a-1904; effective Oct. 24, 2003.)

5-5-3. Change in consumptive use. The extent of consumptive use shall not be increased substantially after a vested right has been determined or the time allowed in which to perfect the water right has expired, including any authorized extension of time to perfect the water right. (Authorized by K.S.A. 82a-706a, 82a-708b; effective May 1, 1983.)

5-5-4. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-708b; effective May 1, 1980; revoked May 1, 1981.)

5-5-5. Signatures required on change applications. If more than one person is the owner of a water right, and an application is filed for a change in the place of use, point of diversion, use made of the water, or any combination thereof, only the signature(s) of the landowner(s) whose portion of the water right(s) is (are) involved in the change shall be required on the application. If the extent of each owners interest in the water right has not been legally determined, then all landowners holding an undetermined portion of the water right must sign the change application or the landowners must submit an agreement signed by all landowners agreeing how the water right should be divided. (Authorized by K.S.A. 82a-706a, 82a-708b; effective May 1, 1980.)

5-5-6. Failure to construct diversion works at authorized location. (a) If an application to appropriate water for beneficial use is approved by the chief engineer, the location of the point of diversion shall be limited to a specific tract of land and to within 300 feet of a point identified in distances measured in feet north and west from the southeast corner of the legal section.

(b) If the diversion works were not constructed at the location authorized for the point of diversion, but the appropriator can demonstrate to the satisfaction of the chief engineer that all of the following criteria have been met, the authorized location shall be corrected to the actual location of the point of diversion by a correctional order issued by the chief engineer:

(1) The original application was filed before January 1, 1978.

(2) The diversion works were constructed be-

fore the date the original application to appropriate water was signed.

(3) It was not discovered that the actual diversion works were not constructed at the authorized point of diversion until after the application was approved.

(4) The diversion works were constructed at a location that could have been approved at the time the original application was filed based on the criteria in effect at the time the original application was filed.

(c) An application for a change in point of diversion filed pursuant to K.S.A. 82a-708b and amendments thereto shall be approved by the chief engineer, authorizing the actual location where the diversion works were constructed and extending the time to construct the diversion works until the end of the calendar year in which the application to change the point of diversion was approved, if the diversion works were not constructed at the authorized location, but the appropriator can demonstrate to the satisfaction of the chief engineer that all of the following criteria have been met:

(1) The original application was filed with the chief engineer before January 1, 1978.

(2) The diversion works were completed after the application was filed, but within the time authorized to construct the diversion works.

(3) The diversion works were constructed within 1,320 feet of the authorized point of diversion.

(4) The diversion works were constructed at a location that could have been approved at the time that the original application was filed based upon the criteria in effect at the time the original application was filed.

(5) The change application meets the other criteria of K.S.A. 82a-708b and amendments thereto.

If the actual point of diversion is within a groundwater management district, the application shall be sent to the groundwater management district board for review and recommendation.

(d) The point of diversion shall be authorized at the actual location by approval of a new application to appropriate water by the chief engineer if the diversion works were not constructed at the authorized location, but the appropriator can demonstrate to the chief engineer that all of the following criteria have been met:

(1) The original application was filed on or after January 1, 1978.

(2) The diversion works were subsequently

completed within the time authorized to complete the diversion works.

(3) The diversion works were constructed within 1,320 feet of the authorized point of diversion.

(4) The time authorized to complete the diversion works has expired.

(5) There is no water available for a new appropriation to be approved at the location of the actual point of diversion.

(6) The application would have met all the criteria for a new application that were in effect at the time the original new application was filed.

If the actual point of diversion is within a groundwater management district, the application shall be sent to the groundwater management district board for review and recommendation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-708b, and K.S.A. 82a-728; effective May 1, 1980; amended Sept. 22, 2000.)

5-5-6c. Authorized point of diversion or place of use. (a) If a point of diversion or place of use meets the following conditions, the authorized location shall be administratively corrected by the chief engineer to the more accurate location and the owner notified of this action:

(1) Has been determined by the chief engineer to be located at the authorized location by a vested right determination, a certificate of appropriation, or other similar action or approval by the chief engineer;

(2) has not been physically moved or expanded since the location was certified or otherwise approved by the chief engineer; and

(3) is determined by the chief engineer to be incorrect based on a more accurate survey, a global positioning system determination, or other reliable means.

No enforcement action shall be taken against the owner of the water right solely because the location was determined to be at an unauthorized location with the use of better technology than was previously available.

(b) The maximum annual quantity of water authorized to be used by the water right shall not be decreased or increased because of any administrative correction made to the water right pursuant to subsection (a). (Authorized by and implementing K.S.A. 82a-706a; effective Oct. 31, 2008.)

5-5-7. Waste of water. Each person shall not commit a waste of water as defined in these regulations. Upon a finding by the chief engineer

that waste of water has occurred, the chief engineer may suspend use of that water right until the owner shows to the satisfaction of the chief engineer that the waste of water will no longer occur. (Authorized by K.S.A. 82a-706(a); implementing K.S.A. 82a-706; effective Dec. 3, 1990.)

5-5-8. Standards for approval of an application for a change in the place of use and a change in the use made of water. (a) Each application for a change in the place of use or the use made of water which will materially injure or adversely affect water rights or permits to appropriate water with priorities senior to the date the application for change is filed shall not be approved by the chief engineer.

(b) Each approval of a change application shall be conditioned by the chief engineer with the terms, conditions and limitations the chief engineer deems necessary to protect the public interest and enforce the terms of K.A.R. 5-5-3.

(c) As used in K.A.R. 5-5-3, "consumptive use" means gross diversions minus:

(1) waste of water, as defined in K.A.R. 5-1-1(cc); and

(2) return flows to the source of water supply:

(A) through surface water runoff which is not waste; and

(B) by deep percolation.

(d) The maximum annual quantity and maximum rate of diversion of water authorized by an approval of an application for a change in the use made of water shall not exceed the maximum annual quantity or maximum rate of diversion perfected at the time the application for change in the use made of water is filed with the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-708b; effective Nov. 28 1994).

5-5-9. Criteria for the approval of an application for a change in the use made of water from irrigation to any other type of beneficial use of water. (a) The approval of a change in the use made of water from irrigation to any other type of beneficial use shall not be approved if it will cause the net consumptive use from the local source of water supply to be greater than the net consumptive use from the same local source of water supply by the original irrigation use based on the following criteria:

(1) The maximum annual quantity of water to be allowed by the change approval shall be the net irrigation requirement (NIR) for the 50%

chance rainfall for the county of origin, as set forth in K.A.R. 5-5-12, multiplied by the maximum acreage legally irrigated under the authority of the water right in any one calendar year during the perfection period. For vested rights, the acreage used shall be the maximum acreage irrigated prior to June 28, 1945; or

(2) if the applicant establishes to the satisfaction of the chief engineer the need for more flexibility in the authorized annual quantity, the application may be approved subject to the following limits.

(A) The maximum annual quantity of water to be allowed by the change approval shall be the NIR for the 80% chance rainfall for the county of origin, as set forth in K.A.R. 5-5-12, multiplied by the maximum acreage legally irrigated in any one calendar year during the perfection period. For vested rights the acreage used shall be the maximum acreage irrigated prior to June 28, 1945.

(B) The new type of beneficial use shall be further limited by a five year fixed allocation of water in which the NIR for a 50% chance rainfall for the county of origin, as set forth in K.A.R. 5-5-12, is multiplied by five times the maximum acreage lawfully irrigated in any one calendar year during the perfection period. For vested rights, the acreage used shall be the maximum acreage irrigated prior to June 28, 1945.

(C) An application for a term permit which will circumvent the five year allocation of water limit shall not be approved by the chief engineer.

(3) In determining whether the net consumptive use of water will be increased by the proposed change in the use made of water, the applicant shall be given credit by the chief engineer for any return flows from the proposed type of beneficial use which will return to the same local source of supply as the return flows from the originally authorized type of beneficial use as substantiated by the applicant to the satisfaction of the chief engineer by an engineering report or similar type of hydrologic analysis.

(4) The authorized quantity to be changed to the new type of beneficial use shall never exceed the maximum annual quantity authorized by the water right.

(5) If a water right which overlaps the authorized place of use of one or more other water rights, either in whole or in part, is being changed to a different type of beneficial use, the total net consumptive use of all water rights after the change is approved shall not exceed the total net

consumptive use of all of the rights before the change is approved.

(6) The approval for a change in the use made of water shall also be limited by that quantity reasonable for the use proposed by the change in the use made of water.

(b) Upon request of the applicant, the historic net consumptive use actually made during the perfection period, or prior to June 28, 1945 in the case of vested rights, under the water right proposed to be changed shall be considered by the chief engineer, but the burden shall be on the owner to document that historic net consumptive use with an engineering study, or an equivalent documentation and analysis, and demonstrate to the satisfaction of the chief engineer that the analysis submitted by the applicant is a more accurate estimate of the historic net consumptive use than the net consumptive use calculated using the methodology set forth in paragraph (a)(1).

(c) If the methods set forth in subsection (a) produce an authorized annual quantity of water which appears to be unrealistic and could result in impairment of other water rights, the chief engineer shall make a site-specific net consumptive use analysis to determine the quantity of water which was actually beneficially consumed under the water right. The quantity approved shall be limited to the quantity determined to be reasonable by the chief engineer's analysis. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-708b; effective Nov. 28, 1994.)

5-5-10. Partial changes in the use made of water from irrigation to another type of beneficial use. (a) In a case where an irrigation right is to be divided and only a portion of the rate and quantity will be changed to a different use made of water, only that portion of the annual quantity of the water right being changed to a different type of beneficial use shall be reduced as necessary to prevent the net consumptive use from increasing substantially.

(b) The authorized place of use for the irrigation right shall generally be reduced in proportion to the reduction in annual quantity caused by the change. If the irrigator desires to retain more than his or her proportional allotment of acres after the change, the procedures outlined in K.A.R. 5-5-11(b)(2)(B)(ii) shall be followed to determine whether the irrigator shall be allowed to retain more acreage.

(c) The authorized rate of diversion shall be di-

vided between the irrigation and the non-irrigation use. Any reasonable division of the rate by the parties shall be approved. The division of the maximum rate of diversion need not be proportional to the division of the quantity as long as the division of the rate of diversion is reasonable to divert each portion of the annual quantity of water after the division of the water right is made.

(d) The division of the annual quantity shall be made as follows:

(1) Step one.

(A) Multiply the net irrigation requirement (NIR) for the 50% chance rainfall for the county of origin, as set forth in K.A.R. 5-5-12, times the maximum number or acres irrigated in any one calendar year during the perfection period. For vested rights, the acreage used shall be the maximum acreage irrigated prior to June 28, 1945.

(B) This will result in the maximum quantity that could be changed to another type of beneficial use if the entire right were changed pursuant to K.A.R. 5-5-9(a)(1).

(2) Step two.

(A) Divide the annual quantity desired to be changed to the new use by the maximum quantity that could be changed if the entire right were changed.

(B) This will result in the percentage of the entire reduced right that will be changed to the new use. The remaining percentage of the current right can be retained by the irrigation water right owner.

(3) Step three.

(A) Multiply the remaining percentage times the total currently authorized quantity. This shall be the annual quantity of water which may be retained by the irrigation water right owner. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-708b; effective Nov. 28, 1994.)

5-5-11. Applications for change in place of use for irrigation purposes. (a) For the purpose of this regulation, "base acreage" means:

(1) the maximum number of acres actually legally irrigated in any one calendar year on or before December 31, 1994 if the perfection period expired on or before December 31, 1994 or the water right is a vested right; or

(2) if the perfection period expires after December 31, 1994, and the perfection period has not expired at the time the change application has been filed, the base acreage shall be the number of acres authorized by the permit; or

(3) if the perfection period expires after December 31, 1994, and the perfection period has expired at the time the change application was filed, the base acreage shall be the maximum acreage legally irrigated in any one calendar year during the perfection period.

(4) Any year in which any of the terms, conditions and limitations of the water right or permit were violated shall not be used to determine base acreage.

(b) An application to change the authorized place of use for irrigation purposes which would permit the applicant to exceed the base acreage by 10 acres or 10 percent, whichever is less, shall not be approved by the chief engineer because it would result in a substantial increase in net consumptive use in violation of K.A.R. 5-5-3 except when one of the six following criteria are met.

(1) Identical places of use.

(A) The change application shall be filed only for the purpose of creating an identical place of use with another water right or rights;

(B) there shall not be a net increase in authorized acres;

(C) each water right involved in the proposed identical overlap in place of use shall be certified by the chief engineer prior to processing the change application if approval of the change application would authorize an increase in base acreage; and

(D) the total quantity authorized by all existing water rights and all permits involved shall be reasonable to irrigate the land authorized after the change in place of use is approved.

(2) Necessity to install more efficient irrigation system; limited acres and quantity.

(A) The change applicant shall submit information demonstrating to the satisfaction of the chief engineer that it is necessary to increase the base acreage so that a significantly more efficient irrigation delivery system may be installed. Types of crops to be grown or tillage practices used shall not be considered in deciding whether the proposed system is more efficient.

(B) If the chief engineer approves the application for a change in place of use pursuant to this subsection, the following limitations shall apply.

(i) The authorized quantity of water under the water right shall be limited to a 5 year fixed allocation, computed by dividing the net irrigation requirement (NIR), as set forth in K.A.R. 5-5-12, for the 50% chance rainfall for the county where the place of use is located, by an efficiency factor

of 0.85, multiplying by the base acreage as determined in subsection (a) of this regulation, and then multiplying by 5. In any given year, the water right owner shall still be authorized to divert the maximum annual quantity authorized, provided that the 5 year allocation is not exceeded.

(ii) The maximum number of irrigated acres that shall be allowed under the proposed change in place of use shall be computed by multiplying the currently authorized annual quantity by 0.85 and dividing by the NIR, as set forth in K.A.R. 5-5-12, for the 80% chance rainfall for the county where the place of use is located.

(iii) The approval of the change shall be conditioned so that the use of water in excess of the five year allocation shall result in a two year suspension of all water use under that water right and a subsequent restriction of the authorized place of use to the base acreage at a location specifically set forth in the change approval.

(3) Necessity to install a more efficient irrigation system; limited quantity.

(A) The groundwater management district in which the point of diversion is located shall agree to assume monitoring responsibility to ensure compliance with the conditions of the change approval;

(B) the applicant shall submit information demonstrating to the satisfaction of the chief engineer that it is necessary to increase the base acreage so that a significantly more efficient irrigation delivery system may be installed;

(C) the applicant shall submit a feasible operation plan demonstrating to the satisfaction of the chief engineer that the amount of water available for appropriation under that water right is reasonable to irrigate the number of acres requested to be irrigated; and

(D) the water right owner shall have no recent pattern of water use significantly in excess of the maximum annual quantity of water authorized.

(E) If the chief engineer approves the application for a change in place of use pursuant to this subsection, the following limitations shall apply.

(i) The authorized quantity of water under the water right shall be limited to a 5-year fixed allocation, computed by dividing the net irrigation requirement (NIR), as set forth in K.A.R. 5-5-12, for the 50% chance rainfall for the county where the place of use is located by an efficiency factor of 0.85, multiplying by the base acreage irrigated as determined in subsection (a) of this regulation, and then multiplying by 5. In any given year, the

water right owner shall still be authorized to divert the maximum annual quantity authorized, provided that the 5-year allocation is not exceeded.

(ii) The approval of the change shall be conditioned so that the use of water in excess of the five-year allocation shall result in a two-year suspension of all water use under that water right and a subsequent restriction of the authorized place of use to the base acreage at a location specifically set forth in the change approval.

(4) Rotation of the irrigated land within the authorized place of use.

(A) The point of diversion is located outside a groundwater management district or the groundwater management district in which the point of diversion is located shall agree to assume monitoring responsibility to ensure compliance with the conditions of the change approval;

(B) the water right owner shall have no recent pattern of water use significantly in excess of the maximum annual quantity of water authorized; and

(C) approval of the change application shall result in a net increase in the number of acres authorized for irrigation purposes solely for the purpose of rotation of the irrigated land within the authorized place of use.

(D) If the chief engineer approves the application for a change in place of use pursuant to this subsection, the following limitations shall apply.

(i) Approval of the change application shall be limited by the chief engineer so that the net acres physically irrigated in any one calendar year after the change approval shall not exceed the base acreage; and

(ii) the approval shall be conditioned so that the use of water on more than the maximum number of acres authorized to be irrigated in any one calendar year shall result in a two-year suspension of all water use under that water right and a subsequent restriction of the authorized place of use to the base acreage at a location specifically set forth in the change approval.

(5) Specific groundwater management district regulation.

The application shall meet the criteria in a regulation adopted by the chief engineer pursuant to K.S.A. 82a-1028(o) and K.S.A. 82a-706a specifically for changes in place of use for irrigation purposes for the groundwater management district in which the point of diversion is located.

(6) No increase in historic net consumptive use.

The applicant shall demonstrate to the satisfac-

tion of the chief engineer, with an engineering report or similar type of hydrologic analysis, that the historic net consumptive use will not be increased substantially if the proposed change in place of use is approved.

(c) If the chief engineer determines that the application cannot be approved as filed, the applicant shall be notified in writing by the chief engineer prior to denial that the change application requirements have not been met and the reason for the proposed denial.

(1) In this written notice the chief engineer shall allow the applicant 15 days to request time in which to submit additional information to show why the application should be approved.

(2) Upon written request, the applicant shall be given a reasonable time specified by the chief engineer to submit an engineering report or similar type of hydrologic analysis to show that approval of the change application will not substantially increase the historic net consumptive use.

(3) The applicant shall have the burden of demonstrating to the satisfaction of the chief engineer that approval of the change application will not cause the historic net consumptive use to be increased substantially.

(d) Whether or not the time to perfect the water right has expired, including any authorized extensions of time, the application for a change in place of use to change the size of the authorized place of use for irrigation purposes may be approved without the certificate of appropriation being issued except as provided in subsection (b)(1)(C) of this regulation.

(1) If a certificate of appropriation has not been issued, the increase in base acreage shall be determined based on reliable information.

(2) The types of acceptable information shall include, but not be limited to, field inspection reports or U.S. department of agriculture records.

(e) A flow meter meeting the specifications adopted by the chief engineer, and installed and maintained in a manner satisfactory to the chief engineer, shall be required by the chief engineer in all cases where there is an increase in the base acreage authorized to be irrigated by the approval of the change in the place of use, except when:

(1) the application for change in place of use is filed solely to create an identical place of use with other water rights; and

(2) the total quantity authorized by all existing water rights and all permits to appropriate water that are involved equals or exceeds the NIR, as

set forth in K.A.R. 5-5-12, in that county for a 50% chance rainfall divided by an irrigation efficiency of 0.85. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-708b; effective Nov. 28, 1994.)

5-5-12. Net irrigation requirements (NIR). The following amounts shall be used as the net irrigation requirements (NIR).

County	50% Chance Rainfall	80% Chance Rainfall	County	50% Chance Rainfall	80% Chance Rainfall
Allen	7.1" = 0.59'	9.9" = 0.83'	Kiowa	13.2" = 1.10'	15.1" = 1.26'
Anderson	6.1" = 0.51'	9.4" = 0.78'	Labette	7.3" = 0.61'	10.3" = 0.86'
Atchison	7.2" = 0.60'	10.3" = 0.86'	Lane	13.7" = 1.14'	15.7" = 1.31'
Barber	12.6" = 1.05'	14.6" = 1.22'	Leavenworth	7.0" = 0.58'	9.9" = 0.83'
Barton	12.0" = 1.00'	14.4" = 1.20'	Lincoln	11.3" = 0.94'	13.6" = 1.13'
Bourbon	6.8" = 0.57'	9.6" = 0.80'	Linn	5.6" = 0.47'	9.0" = 0.75'
Brown	7.1" = 0.59'	10.6" = 0.88'	Logan	13.9" = 1.16'	15.8" = 1.32'
Butler	9.2" = 0.77'	12.0" = 1.00'	Lyon	7.5" = 0.63'	10.5" = 0.88'
Chase	8.7" = 0.73'	11.4" = 0.95'	Marion	9.6" = 0.80'	12.2" = 1.02'
Chautauqua	8.6" = 0.72'	11.4" = 0.95'	Marshall	8.7" = 0.73'	11.4" = 0.95'
Cherokee	7.0" = 0.58'	9.9" = 0.83'	McPherson	10.8" = 0.90'	13.1" = 1.09'
Cheyenne	13.7" = 1.14'	15.4" = 1.28'	Meade	14.3" = 1.19'	16.1" = 1.34'
Clark	13.7" = 1.14'	15.7" = 1.31'	Miami	5.0" = 0.42'	9.0" = 0.75'
Clay	9.2" = 0.77'	12.2" = 1.02'	Mitchell	10.8" = 0.90'	13.3" = 1.11'
Cloud	10.3" = 0.86'	12.7" = 1.06'	Montgomery	8.1" = 0.68'	10.9" = 0.91'
Coffey	6.8" = 0.57'	9.9" = 0.83'	Morris	8.5" = 0.71'	11.4" = 0.95'
Comanche	13.0" = 1.08'	15.1" = 1.26'	Morton	15.4" = 1.28'	17.1" = 1.43'
Cowley	9.7" = 0.81'	12.3" = 1.03'	Nemaha	7.8" = 0.65'	10.9" = 0.91'
Crawford	7.0" = 0.58'	9.8" = 0.82'	Neosho	7.1" = 0.59'	10.2" = 0.85'
Decatur	12.7" = 1.06'	14.8" = 1.23'	Ness	13.3" = 1.11'	15.3" = 1.28'
Dickinson	9.4" = 0.78'	12.3" = 1.03'	Norton	12.3" = 1.03'	14.4" = 1.20'
Doniphan	7.3" = 0.61'	10.3" = 0.86'	Osage	7.0" = 0.58'	9.9" = 0.83'
Douglas	6.8" = 0.57'	9.8" = 0.82'	Osborne	11.7" = 0.98'	13.8" = 1.15'
Edwards	13.0" = 1.08'	15.1" = 1.26'	Ottawa	10.5" = 0.88'	12.9" = 1.08'
Elk	8.7" = 0.73'	11.3" = 0.94'	Pawnee	12.7" = 1.06'	14.9" = 1.24'
Ellis	12.2" = 1.02'	14.6" = 1.22'	Phillips	11.7" = 0.98'	14.0" = 1.17'
Ellsworth	11.5" = 0.96'	13.7" = 1.14'	Pottawatomie	8.1" = 0.68'	11.1" = 0.93'
Finney	14.5" = 1.21'	16.3" = 1.36'	Pratt	12.6" = 1.05'	14.6" = 1.22'
Ford	13.7" = 1.14'	15.7" = 1.31'	Rawlins	13.2" = 1.10'	15.1" = 1.26'
Franklin	5.8" = 0.48'	9.1" = 0.76'	Reno	11.4" = 0.95'	13.8" = 1.15'
Geary	8.4" = 0.70'	11.5" = 0.96'	Republic	10.0" = 0.83'	12.6" = 1.05'
Gove	13.1" = 1.09'	15.3" = 1.28'	Rice	11.5" = 0.96'	13.8" = 1.15'
Graham	12.4" = 1.03'	14.7" = 1.23'	Riley	8.5" = 0.71'	11.4" = 0.95'
Grant	14.9" = 1.24'	16.7" = 1.39'	Rooks	12.0" = 1.00'	14.3" = 1.19'
Gray	13.8" = 1.15'	16.1" = 1.34'	Rush	12.6" = 1.05'	14.8" = 1.23'
Greeley	14.7" = 1.23'	16.5" = 1.38'	Russell	11.3" = 0.94'	14.1" = 1.18'
Greenwood	8.1" = 0.68'	11.1" = 0.93'	Saline	10.8" = 0.90'	13.1" = 1.09'
Hamilton	15.2" = 1.27'	16.9" = 1.41'	Scott	14.0" = 1.17'	15.9" = 1.33'
Harper	11.7" = 0.98'	14.0" = 1.17'	Sedgwick	10.7" = 0.89'	13.1" = 1.09'
Harvey	10.2" = 0.85'	12.9" = 1.08'	Seward	14.5" = 1.21'	16.4" = 1.37'
Haskell	14.5" = 1.21'	16.4" = 1.37'	Shawnee	7.4" = 0.62'	10.2" = 0.85'
Hodgeman	13.4" = 1.12'	15.5" = 1.29'	Sheridan	12.9" = 1.08'	15.0" = 1.25'
Jackson	7.4" = 0.62'	10.5" = 0.88'	Sherman	14.1" = 1.18'	15.7" = 1.31'
Jefferson	7.0" = 0.58'	10.1" = 0.84'	Smith	11.4" = 0.95'	13.6" = 1.13'
Jewell	10.6" = 0.88'	13.1" = 1.09'	Stafford	12.3" = 1.03'	14.5" = 1.21'
Johnson	6.6" = 0.55'	9.5" = 0.79'	Stanton	15.6" = 1.30'	17.2" = 1.43'
Kearny	14.9" = 1.24'	16.6" = 1.38'	Stevens	14.8" = 1.23'	16.8" = 1.40'
Kingman	11.7" = 0.98'	14.0" = 1.17'	Sumner	10.3" = 0.86'	13.2" = 1.10'
			Thomas	13.5" = 1.13'	15.4" = 1.28'
			Trego	12.9" = 1.08'	15.0" = 1.25'
			Wabaunsee	7.8" = 0.65'	10.7" = 0.89'
			Wallace	14.3" = 1.19'	16.1" = 1.34'
			Washington	9.2" = 0.77'	12.0" = 1.00'
			Wichita	14.4" = 1.20'	16.3" = 1.36'
			Wilson	8.0" = 0.67'	10.7" = 0.89'
			Woodson	7.4" = 0.62'	10.4" = 0.87'
			Wyandotte	7.0" = 0.58'	9.8" = 0.82'

(Authorized by K.S.A. 82a-706a; implementing K.S.A. 1993 Supp. 82a-708b; effective Nov. 28, 1994.)

5-5-13. Relocation of alluvial wells. (a) If an authorized point of diversion is a well that has as its source of supply an alluvium in a reach of a basin that is fully appropriated or closed to new appropriations, the approval of a change in point of diversion, and any subsequent approvals of changes in points of diversion, shall not authorize the distance between the well and the centerline of the stream to be decreased by more than 10 percent as measured from the following:

(1) The authorized well location when the basin became fully appropriated or was closed to new appropriations; and

(2) the centerline of the stream when the change application was filed.

(b) Only for the purposes of applying this regulation, the term “stream” shall include the main stem and any tributary to the main stem that was a perennial stream when the basin was closed to new appropriations. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 2007 Supp. 82a-708b; effective Sept. 22, 2000; amended Oct. 31, 2008.)

5-5-14. Duties of owners of approvals of applications and water rights. (a) All of the owners of an approval of application or a water right shall be responsible for taking all legally required actions necessary to maintain the validity of the approval of application or water right, including the filing of statutorily required fees, reports, and applications.

(b)(1) Unless the approval of application or the water right has been severed from the authorized place of use and unless the requirements specified in either paragraph (b)(2) or (b)(3) have been met, all of the owners of the authorized place of use shall be considered to be the owners of the approval of application or the water right.

(2) Unless the chief engineer has documentation to the contrary, an approval of application or water right for municipal use shall be considered to be owned by the entity owning and operating the water distribution system. A water right for an irrigation district shall be considered to be owned by the irrigation district.

(3) Unless the chief engineer has documentation to the contrary, an approval of application or water right that authorizes water to be used for either of the following shall be considered to be owned by the watershed district:

(A) Sediment control in a reservoir; or

(B) recreation in a reservoir constructed, maintained, and operated by a watershed district. (Authorized by and implementing K.S.A. 82a-706a; effective Sept. 22, 2000; amended Oct. 31, 2008.)

5-5-16. Additional wells. (a) An application for approval to change the point of diversion to add an additional point of diversion to divert groundwater, by either constructing a new well or moving a portion of a water right to a well that has previously been authorized by the chief engineer, shall not be approved unless it meets the following requirements:

(1) The provisions of K.S.A. 82a-708b, and amendments thereto, and any applicable regulations adopted by the chief engineer shall be met.

(2) The total maximum quantity of water authorized to be diverted each calendar year by the original well or wells, and the additional well or wells, shall not exceed any of the following limits:

(A) The maximum annual quantity of water that has been perfected;

(B) the maximum annual quantity of water authorized to be diverted before approval of the change; or

(C) the maximum consumptive use during the perfection period as required by K.A.R. 5-5-3 and as specified in either paragraph (a) (2) (C) (i) or (ii):

(i) If the water right authorizes the use of water for irrigation use, the consumptive use shall be presumed to not be increased in violation of K.A.R. 5-5-3 if the maximum annual quantity requested does not exceed the quantity in acre-feet calculated by use of the following formula: multiply the maximum number of acres legally irrigated in any one year during the perfection period by the 80 percent chance net irrigation requirements (N.I.R.), as set forth in K.A.R. 5-5-12 expressed in acre-feet, and divide that number by a delivery efficiency of 0.85.

(ii) If the beneficial use authorized is not irrigation, the net consumptive use during the perfection period shall be determined using the best information available.

(3) The total maximum rate of diversion that may be authorized for the original well or wells and the additional well or wells shall not be greater than the total maximum rate of diversion that could have been diverted from the original well or wells if they were currently being replaced by new wells at substantially the originally au-

thorized location or locations in the same local source of supply. A reasonable value for the maximum rate of diversion shall be one of the following:

(A) The total rate of diversion based on a current water flow rate test done on the point or points of diversion; or

(B) a value based on a valid hydraulic analysis submitted by the applicant showing the current capacity of the aquifer to yield water at the currently authorized point or points of diversion.

(4) A condition shall be placed on the approval of the application for change authorizing the additional well or wells that provides that, for the sole purpose of administering wells concerning direct impairment, the additional well or wells shall be considered to have the priority of the date the application was filed to add the additional well or wells.

(b) The applicant shall submit the following information:

(1) A well completion log of the currently authorized well or a stratigraphic log of a test hole located within 300 feet of the currently authorized well;

(2) the depth of the currently authorized well;

(3) the current depth to the static water level of the currently authorized well;

(4) a stratigraphic log of a test hole located within 300 feet of the proposed location of each of the proposed additional well or wells; and

(5) any additional information that the chief engineer needs to understand the nature of the proposed additional well or wells.

(c) The proposed additional well or wells shall meet one of the following conditions:

(1) Meet the well spacing requirements to all other wells with a priority earlier than the date the change application was filed; or

(2) if a hydraulic analysis shows that the approval of the proposed additional well within 300 feet of the currently authorized well location will neither impair any water rights senior to the date the application for change was filed nor prejudicially and unreasonably affect the public interest, be located within a 300-foot radius of one of the wells, or the geocenter if the currently authorized point of diversion is a battery of wells, authorized pursuant to the water right upon which the change application has been filed.

(d) Each point of diversion authorized by an approval of an application for change for an additional well shall have a specific assignment of a

maximum instantaneous rate of diversion and a maximum annual quantity of water.

(e) Each well authorized by a water right that has been changed under the provisions of this regulation shall be equipped with a separate water flowmeter that meets or exceeds the specifications for water flowmeters adopted by the chief engineer.

(f) Each approval of an additional well or wells shall have a condition that reserves jurisdiction for the chief engineer to review the approval of the additional well or wells at intervals of no fewer than five years, and not more than 10 years, to determine if the total annual quantity of water actually being withdrawn by all wells authorized by the approval of an application for change is exceeding the total annual quantity of water that could have been physically withdrawn if the additional well or wells had not been approved. If the chief engineer determines during the review that the total annual quantity being withdrawn by all the wells, including the additional wells, exceeds the total annual quantity of water that could have been physically withdrawn by the original well or wells, the total maximum annual quantity that can be withdrawn by all the wells shall be reduced by the chief engineer to the total maximum annual quantity that could have been physically withdrawn by the original well or wells. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-708b; effective Sept. 22, 2000; amended Oct. 24, 2003.)

Article 6.—STORAGE OF WATER

5-6-1. Application proposing storage, contents. Any person intending to store water may make application to the chief engineer in the same manner as any other person making application for permit to appropriate water for beneficial use. The application shall set forth the same general information as any other application for permit to appropriate water for beneficial use and, in addition, shall be accompanied by information to show:

(a) The area-capacity data of the reservoir in which the water is to be stored.

(b) The drainage area.

(c) The names and mailing addresses of the owners of lands that will be inundated by water accumulated in the reservoir.

(d) Any additional information as may be required by the chief engineer for a proper under-

standing of the proposed appropriation and storage of water. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-6-2. Storage of water in watershed district reservoirs. (a) Each person filing an application for a permit to appropriate water for beneficial use and proposing to store the water in a watershed district reservoir shall submit one of the following with the application:

(1) A copy of an agreement or letter from the board of directors of the watershed district that states it was mutually agreed and understood at the time an easement was granted by the landowner that the landowner was to have the use of space in the sediment pool to store water to which the landowner is entitled under the water appropriation act; or

(2) a copy of a resolution by the board of directors that shows when the board allocated or gave to the applicant the use of all, or a specified part of, the sediment pool for the storage of water in accordance with the Kansas water appropriation act.

(b) If surface water will be stored in a watershed district reservoir with a capacity of more than 15 acre-feet and an application to appropriate water to be stored in the reservoir was not filed before July 1, 2008, a separate application shall be filed to appropriate water to store water in each watershed district reservoir.

(c) If a reservoir operated by a watershed district has a capacity of more than 15 acre-feet and no application to appropriate water has been filed with the chief engineer before July 1, 2008, the watershed district shall release, drain, pump, or siphon water from behind the dam and maintain the quantity of water stored behind the dam to 15 acre-feet or less. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and 82a-709; modified, L. 1978, ch. 460, May 1, 1978; amended Oct. 31, 2008.)

5-6-3. Potential net evaporation. (a) The Kansas department of agriculture, division of water resources' map titled "potential net evaporation, in inches, for Kansas," dated September 6, 1996, is hereby adopted by reference for the purpose of determining potential net evaporation from a free water surface.

(b) The values on the map shall be used in all situations in which determination of potential net evaporation from a free water surface is necessary, including the following:

(1) Calculating the maximum annual quantity of water allowed to be appropriated for the storage of surface water in a reservoir;

(2) computing the annual amount of evaporation that will be caused by exposing the groundwater table;

(3) calculating the quantity of evaporation from surface water or exposed groundwater that will be used to determine annual water use; and

(4) determining the maximum annual quantity of water that is perfected pursuant to K.S.A. 82a-714 and amendments thereto.

(c) The values shown on the map shall be used unless the applicant provides, or the chief engineer has available, better or more site-specific data concerning potential net evaporation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-6-4. Determination of potential annual runoff. (a) Unless the applicant for an approval of application supplies, or the chief engineer has available, better or more site-specific data, the potential annual runoff shall be determined using the following:

(1) A 20 percent chance of occurrence of runoff by extrapolating from the "annual yield of runoff" graph of the United States department of agriculture, natural resources conservation service, national engineering handbook series, part 650, engineering field handbook, EFM notice KS-38, dated December 12, 1991, which is adopted by reference;

(2) the soil cover complex number of the drainage basin, using the "generalized soil cover complex number" map of Kansas produced by the Kansas department of agriculture, division of water resources, dated August 1999, which is hereby adopted by reference;

(3) the normal annual precipitation in the watershed as set forth in K.A.R. 5-6-12; and

(4) the area of the watershed of the reservoir determined by using a United States geological survey 7½-minute topographic map.

(b) In computing the potential annual runoff of the watershed of the reservoir, if the quantity of water applied for, or authorized by, prior upstream surface water and groundwater applications, approvals of applications, and existing water rights within the watershed of the reservoir will significantly decrease the potential annual runoff

available for appropriation in the reservoir, the impact of those rights on the potential annual runoff shall be subtracted from the total computed potential annual runoff in order to determine the potential annual runoff available. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e) and K.S.A. 1999 Supp. 82a-711; effective Sept. 22, 2000.)

5-6-5. Maximum reasonable annual quantity for storage of water for beneficial use in a reservoir. The maximum reasonable annual quantity of water that may be authorized for appropriation by the chief engineer for diversion and storage in a reservoir shall be limited to the lesser of either of the following: (a) The potential annual runoff as determined pursuant to K.A.R. 5-6-4; or

(b) one of the following:

(1) (A) A three-year supply of water to be rediverted for all authorized beneficial uses; and

(B) a three-year supply of water for indirect use; or

(2) if the total maximum annual quantity of water requested for storage in paragraphs (b)(1)(A) and (B) exceeds the reservoir capacity, the maximum annual quantity of water authorized to be diverted and stored in any one year shall not exceed the total of the following:

(A) The annual quantity of water rediverted for beneficial use;

(B) the reservoir capacity; and

(C) one year of indirect use from the reservoir. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 82a-707(e), K.S.A. 2007 Supp. 82a-711, and K.S.A. 82a-712; effective Sept. 22, 2000; amended Oct. 31, 2008.)

5-6-6. Initial filling and refilling of a reservoir. (a) The initial filling of a reservoir that has a capacity that exceeds the maximum annual quantity of water authorized shall be authorized by a special condition on the approval of application.

(b) Each refilling of a reservoir after the release of water for maintenance or similar reasons shall be required to be authorized by a term permit if the reservoir capacity exceeds the maximum annual quantity authorized. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-6-7. Determination of average annual

potential net evaporation loss. The average annual potential net evaporation loss shall be determined by multiplying the surface area of the reservoir at the top of the reservoir capacity times the value for average annual potential net evaporation, as set forth in K.A.R. 5-6-3, for the township in which the point of diversion is located. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-6-8. Determination of average annual seepage loss from a reservoir. Average annual seepage loss from a reservoir shall be determined by the chief engineer based on relevant, credible information furnished by the applicant. If no relevant, credible information is supplied by the applicant, it shall be assumed by the chief engineer that there is no seepage loss. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-6-9. Administration of surface water stored in a reservoir. Water lawfully stored within any reservoir authorized to store water for subsequent beneficial use shall not be subject to administration unless senior water right holders downstream of the reservoir make an appropriate request to have water bypassed to satisfy their senior water right within two weeks of the runoff event, or any other time frame in which inflow to the reservoir could reasonably have been expected to be available to the downstream senior water right if the reservoir had not impounded the water. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706b; effective Sept. 22, 2000.)

5-6-10. Authorized place of use for stored surface water. The approval of application shall limit the authorized place of use to the actual location where the water will be put to beneficial use. If the authorized use is for recreational use within the reservoir only, the authorized place of use shall not exceed the size and location of the surface area of the reservoir at the elevation of the top of the principal spillway. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711 and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-6-11. Reasonable rate of diversion for storage of surface water in a reservoir. Each approval of application shall limit the rate of diversion for storage of surface water in a reservoir

to all natural flows not necessary to satisfy all of the following:

- (a) Senior water rights;
- (b) senior approvals of applications;
- (c) senior water reservation rights; and
- (d) senior minimum desirable stream flows pertaining to the use of water from the same source of water supply. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712; effective Sept. 22, 2000.)

5-6-12. Average annual precipitation. (a) The Kansas department of agriculture, division of water resources' map titled "normal annual precipitation, by township, 1961-1990," dated September 29, 1999, is hereby adopted by reference for the purpose of determining average annual precipitation.

(b) The data on the map shall be used in all situations in which the determination of average annual precipitation is necessary, including calculating the maximum annual quantity of water allowed to be appropriated for the storage of surface water in a reservoir.

(c) The values shown on the map shall be used unless the applicant provides, or the chief engineer has available, better or more site-specific data concerning average annual precipitation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711; effective Sept. 22, 2000.)

5-6-13. Water level measurement tube specifications. (a) The Kansas department of agriculture, division of water resources' document titled "specifications for water level measurement tube," dated November 5, 1999, is hereby adopted by reference.

(b) If a water level measurement tube is required by the chief engineer to be installed, the required water level measurement tube shall be installed in accordance with the specifications for water level measurement tubes adopted by the chief engineer. These requirements are in addition to those made by the Kansas department of health and environment pursuant to the groundwater exploration and protection act, K.S.A. 82a-1201 et seq., and amendments thereto.

(c) As long as the well is permitted, the water level measurement tube shall be maintained in a satisfactory condition. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706c; effective Sept. 22, 2000.)

5-6-13a. Check valve specifications. The Kansas department of agriculture, division of water resources' document titled "check valve specifications," dated March 14, 2003, is hereby adopted by reference. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706, K.S.A. 82a-706a, and K.S.A. 82a-712; effective Oct. 24, 2003.)

5-6-14. Irrigation with effluent from a confined feeding facility lagoon. An individual who irrigates with effluent pumped from a confined feeding facility lagoon or runoff retention pit shall not be required to have an approval of application pursuant to K.S.A. 82a-701 et seq. and amendments thereto, unless there are more than 15 acre-feet of average annual runoff meeting the following criteria:

- (1) Is generated from outside of the confined feeding facility;
- (2) is impounded in the lagoon or runoff retention pit; and
- (3) is used for irrigation purposes. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-705 and 82a-707(a); effective Sept. 22, 2000.)

5-6-15. Drainage basin boundaries. (a) The following electronic data files, all dated February 14, 2002, prepared by the division of water resources, Kansas department of agriculture, using data developed by the United States geological survey and the natural resource conservation service, are hereby adopted by reference by the chief engineer for the purpose of defining the boundaries of the 62 drainage basins in Kansas:

- (1) dwrbasins.dbf;
- (2) dwrbasins.sbn;
- (3) dwrbasins.sbx;
- (4) dwrbasins.shp; and
- (5) dwrbasins.shx.

(b) The electronic data files described in subsection (a) shall be used in all situations in which determination of the basin boundaries is necessary.

(c) The boundaries shown in the electronic data files shall be used unless the applicant provides, or the chief engineer has available, better or more site-specific data concerning the actual drainage basin boundaries. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706 and K.S.A. 82a-706a; effective Sept. 22, 2000; amended Oct. 24, 2003.)

Article 7.—ABANDONMENT AND TERMINATION

5-7-1. Due and sufficient cause for non-use. (a) Each of the following circumstances shall be considered “due and sufficient cause,” as used in K.S.A. 82a-718, and amendments thereto:

(1) Adequate moisture is provided by natural precipitation for production of crops normally requiring full or partial irrigation within the region of the state in which the place of use is located.

(2) A right has been established or is in the process of being perfected for use of water from one or more preferred sources in which a supply is available currently but is likely to be depleted during periods of drought.

(3) Water is not available from the source of water supply for the authorized use at times needed.

(4) Water use is temporarily discontinued by the owner for a definite period of time to permit soil, moisture, and water conservation, as documented by any of the following:

(A) Furnishing to the chief engineer a copy of a contract showing that land that has been lawfully irrigated with a water right that has not been abandoned is enrolled in a multiyear federal or state conservation program that has been approved by the chief engineer;

(B) enrolling the water right in the water right conservation program in accordance with K.A.R. 5-7-4; or

(C) any other method acceptable to the chief engineer that can be adequately documented by the owner before the nonuse takes place.

(5) Management and conservation practices are being applied that require the use of less water than authorized. If a conservation plan has been required by the chief engineer, the management and conservation practices used shall be consistent with the conservation plan approved by the chief engineer to qualify under this subsection.

(6) The chief engineer has previously approved the placement of the point of diversion in a standby status in accordance with K.A.R. 5-1-2.

(7) Physical problems exist with the point of diversion, distribution system, place of use, or the operator. This circumstance shall constitute due and sufficient cause only for a period of time reasonable to correct the problem.

(8) Conditions exist beyond the control of the owner that prevent access to the authorized place of use or point of diversion, as long as the owner

is taking reasonable affirmative action to gain access.

(9) An alternate source of water supply was not needed and was not used because the primary source of supply was adequate to supply the needs of the water right owner. The owner shall maintain the diversion works on the alternate source of supply in a condition that will allow the owner to effectively use the alternate source of supply in a timely manner.

(10) The chief engineer determines that a manifest injustice would result if the water right were deemed abandoned under the circumstances of the case.

(b) In order to constitute due and sufficient cause for nonuse of water, the reason purporting to constitute due and sufficient cause shall have in fact prevented, or made unnecessary, the authorized beneficial use of water.

(c) Each year of nonuse for which the chief engineer finds that due and sufficient cause exists shall be considered to interrupt the successive years of nonuse for which due and sufficient cause does not exist.

(d) When a verified report of the chief engineer, or the chief engineer's authorized representative, is made a matter of record at a hearing held pursuant to K.S.A. 82a-718, and amendments thereto, that establishes nonuse of a water right for five or more successive years, the water right owner shall have the burden of showing that there have not been five or more successive years of nonuse without due and sufficient cause. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-718; modified, L. 1978, ch. 460, May 1, 1978; amended May 1, 1986; amended May 31, 1994; amended Oct. 24, 2003.)

5-7-2. Waiver of hearing. The owner of a water right may waive any hearing on the questions of abandonment and termination of such right by letter to the chief engineer requesting that it be terminated and its priority forfeited. In the event of such waiver the chief engineer shall cause the termination and forfeiture of priority date to be made a matter of record in his office and shall notify the owner of the water right of his or her action by regular mail. (Authorized by K.S.A. 82a-706a; modified, L. 1978, ch. 460, May 1, 1978.)

5-7-3. (Authorized by K.S.A. 82a-706a;

modified, L. 1978, ch. 460, May 1, 1978; revoked May 31, 1994.)

5-7-4. Water rights conservation program. (a) Enrollment in the water rights conservation program (WRCP) approved by the chief engineer, and continued compliance with the WRCP shall constitute due and sufficient cause for nonuse pursuant to K.S.A. 82a-718, and amendments thereto, and K.A.R. 5-7-1 during the time the water right is enrolled in the WRCP.

(b) In order to qualify for enrollment in the WRCP, the following conditions shall be met:

(1) The point of diversion shall be located in either of the following locations:

(A) In an area that is closed to new appropriations of water, except for temporary permits, term permits, and domestic use; or

(B) in some other area designated by the chief engineer as an area where it would be in the public interest to allow water rights to be placed in the WRCP. In areas within the boundaries of a groundwater management district, the recommendations of the board of the district shall be taken into consideration by the chief engineer.

(2) Each of the owners of the water right shall agree to totally suspend all water use authorized by that water right for the duration of the contract.

(3) The owner or owners of the water right shall sign a contract with the chief engineer, or the chief engineer's authorized representative, before placing the water right into the WRCP. The contract shall be binding on all successors in interest to the water right owner.

(4) Only an entire water right may be placed into the WRCP. If a portion of a water right has been abandoned, the portion that is still in good standing may be enrolled in the WRCP. If a water right is administratively divided by the chief engineer, each portion of a formally divided water right shall be considered to be an entire water right for the purpose of this regulation.

(A) If at least five successive years of nonuse have occurred before application for enrollment in the WRCP, a determination of whether or not that water right is subject to abandonment before entry into the program, including an analysis of any reasons given that might constitute due and sufficient cause for nonuse, shall be made by the chief engineer.

(B) If, after review of the information, it appears that the right has been abandoned, the statutory procedures, including the right to a hearing,

shall be followed to determine whether or not it has been abandoned.

(5) Only the portion of a water right in good standing at the time of application for enrollment may be entered into the WRCP.

(c) Other obligations, responsibilities, and aspects of enrollment in the WRCP program shall include the following:

(1) Water rights shall originally be placed into the WRCP for a definite period of calendar years of no fewer than five and no more than ten. The owner of the water right may apply for renewal of the contract for a period not to exceed 10 years. Applications for renewal shall be subject to the approval of the chief engineer. In determining whether or not to approve the renewal, the following factors shall be taken into account by the chief engineer:

(A) The hydrologic conditions in the vicinity of the point of diversion;

(B) the effect of renewal on the public interest; and

(C) any other relevant information.

(2) The water right owner or operator shall not be required to maintain the diversion works or delivery system during the period of the WRCP contract. If the pump is removed from a well, the well shall be properly capped or sealed during the contract. These requirements are in addition to those made by the Kansas department of health and environment pursuant to the groundwater exploration and protection act, K.S.A. 82a-1201 et seq., and amendments thereto.

(3) A certificate determining the extent to which a water right has been perfected shall be issued by the chief engineer before entering the water right into the WRCP if all of the following conditions are met:

(A) An applicant has a permit to appropriate water for beneficial use and has perfected all, or any portion, of the water right authorized by the permit.

(B) The time in which to perfect the water right has expired, including any authorized extensions of time.

(C) A field inspection has been completed.

(4) If the time to perfect the water right, or any authorized extension of it, has not expired, enrollment in the WRCP shall be considered as suspending the time to perfect. Upon expiration of the WRCP contract pertaining to this water right, the time to perfect shall again commence, and the applicant shall be required to perfect the water

right within the remainder of the time allowed to perfect, or any authorized extension of that time.

(5) Each year after authorized enrollment in the WRCP, the water use correspondent shall indicate on the water use report that no water was used because the water right was enrolled in the WRCP.

(6) If the owner breaches, or causes or allows a breach of, the WRCP contract with the chief engineer, each year of nonuse between the effective date of the contract and the date of the breach shall be counted as years of non use without due and sufficient cause for the purpose of determining whether or not the water right has been abandoned pursuant to the provisions of K.S.A. 82a-718, and amendments thereto. Before this penalty is imposed, the owner shall be given an opportunity to show either of the following:

(A) A breach of contract did not occur.

(B) A breach occurred, but either was minor or has been cured, and should not constitute grounds for imposing the penalty. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706, K.S.A. 82a-713, K.S.A. 1999 Supp. 82a-714, and K.S.A. 1999 Supp. 82a-718; effective July 1, 1994; amended Sept. 22, 2000.)

5-7-4a. Conservation reserve program.

(a) Enrollment of all, or part of, the authorized place of use in the conservation reserve program (CRP) shall not be considered good cause to extend the time to construct the diversion works.

(b) If an authorized place of use has been placed into the CRP after the diversion works have been completed but before the time to perfect the water right has expired, the appropriator may request and receive an extension of time to perfect the water right for the length of time that the authorized place of use is enrolled in the CRP program, plus the length of time remaining to perfect the water right, if all of the following conditions are met:

(1) The diversion works were properly completed within the time allowed by the approval of application.

(2) The time to perfect the water right as set forth in the approval of the application has not expired at the time the request for the extension is filed.

(3) The appropriator furnishes the chief engineer with a copy of the CRP contract, including the aerial photograph designating which land has been placed into the CRP program. (Authorized

by K.S.A. 82a-706a; implementing K.S.A. 82a-713 and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-7-5. Reduction of an existing water right. (a) In order to have an approval of application or water right reduced, the water right owner may file, at any time, a request to reduce any of the following:

(1) The authorized maximum annual quantity of water;

(2) the authorized maximum rate of diversion;

(3) the authorized place of use;

(4) the authorized points of diversion;

(5) the types of beneficial use; or

(6) any combination of paragraphs (a)(1) through (a)(5).

(b) The request to reduce a water right shall be filed on a form prescribed by the chief engineer.

(c) The request to reduce shall be submitted in proper form and shall include the following information:

(1) Except as set forth in subsection (d) below, notarized signatures of all water right owners that would be required by K.A.R. 5-5-1 to sign an application for change under K.S.A. 82a-708b and amendments thereto;

(2) a clear description of which portion or portions of the approval of application or water right are proposed to remain;

(3) a statement that all of the owners of the approval of application or water right are waiving any right they might have to a hearing concerning the dismissal or abandonment of any portion of the approval of application or water right that they are requesting to have removed; and

(4) any other information requested by the chief engineer.

(d) A request solely to reduce the authorized place of use that will not affect the approval of application or water right in any other way shall be only required to be signed only by all of the owners of the authorized place of use that is proposed to be deleted.

(e) A reasonable request to reduce an approval of application or water right that is submitted in proper form shall be approved by the chief engineer unless it will cause the impairment of existing water rights or prejudicially and unreasonably affect the public interest. If the request to reduce the water right or approval of application is to remove a point of diversion, the approval shall reduce only that maximum annual quantity of water

and maximum rate of diversion associated with the authorized point of diversion that is removed.

(f) A request to reduce an existing water right shall not be considered to be an application for a change pursuant to K.S.A. 82a-708b and amendments thereto, so no application fee shall be required. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706 and 82a-721; effective Sept. 22, 2000.)

Article 8.—CERTIFICATION OF WATER RIGHTS

5-8-1. Certification of a water right. Prior to the issuance of a certificate of appropriation by the chief engineer pursuant to an application under which water has been applied to the land of more than one owner, these landowners shall be allowed an opportunity to submit to the chief engineer an agreement signed by all landowners involved recommending how the water right should be divided among them. (Authorized by K.S.A. 82a-706a, 82a-714; effective May 1, 1980.)

5-8-2. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712, 82a-714; effective May 1, 1980; revoked May 1, 1981.)

5-8-3. Perfection; multiple water rights. (a) The total maximum annual quantity of water that can be perfected by all water rights authorized to divert water to the same authorized place of use, shall be limited to the maximum quantity of water actually physically and legally diverted and applied to beneficial use on the common authorized place of use during any one calendar year during the perfection period for the water right being certified.

(b) The junior water right shall be limited by means of a limitation clause in the certificate so that the authorized annual quantity of water for the junior water right, when combined with all senior water rights authorized to apply water to beneficial use on the common authorized place of use, does not exceed either of the following standards:

(1) The annual quantity of water reasonable for the type of beneficial use made of the water; and

(2) the total annual quantity of water legally diverted by all water rights to the common authorized place of use during any one calendar year during the perfection period of the junior water right.

(c) The limitation clause on the junior water

right being certified shall not restrict the total annual quantity authorized to be diverted to the authorized place of use to less than the total annual quantity of water authorized by the senior water right or water rights for beneficial use on the common authorized place of use.

(d) The owner whose water right is being certified shall be sent a draft certificate showing the maximum rate of diversion and maximum annual quantity of water that are being proposed for the certificate. The water right owner shall be given a reasonable time period of no fewer than 30 days to comment on the draft certificate and to provide any additional information concerning the water diverted and applied to beneficial use on the authorized place of use during the perfection period in accordance with the terms, conditions, and limitations of the approval of application, and all other water rights and approvals of applications authorized to divert water to the common authorized place of use.

(e) In certifying a water right with a priority date before the effective date of this regulation, the provisions of subsection (a) shall be followed to the extent possible. If sufficient information is not available to make the determination described in subsection (a), the best information available shall be utilized by the chief engineer to determine the quantity of water applied to the authorized place of use during any one calendar year during the perfection period under the authority of the approval of application being certified and all other water rights. The standard set forth in paragraph (b)(1) shall be applied, even if sufficient information is not available to make the determination described in subsection (a). (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 82a-713, and K.S.A. 1999 Supp. 82a-714(a); effective Sept. 22, 2000.)

5-8-4. Construction of diversion works.

(a) A reasonable period of time for construction of diversion works shall be not less than one full year following the approval of the application to appropriate water. If a person demonstrates that a reasonable long-term schedule for development of diversion works or other infrastructure is in the public interest, that information shall be taken into consideration by the chief engineer in determining a reasonable period of time for the construction of diversion works.

(b) For good cause shown by the applicant, a reasonable extension of time to construct the di-

version works shall be allowed by the chief engineer, if the request for extension is filed pursuant to the requirements of K.A.R. 5-3-7 and is accompanied by the statutorily required filing fee.

(c) If the total time allowed to construct the diversion works has been more than 16 months and fewer than 24 months, an extension of time shall be granted by the chief engineer only if the applicant meets the following criteria:

(1) Demonstrates good cause;

(2) provides a copy of a contract with the well driller or other information substantiating the intent to proceed to complete the construction of the diversion works in an expeditious manner;

(3) files the request for extension pursuant to the requirements of K.A.R. 5-3-7; and

(4) submits the statutorily required filing fee.

(d) If the total time allowed to construct the diversion works equals or exceeds 24 months, an extension of time may be granted only if the applicant demonstrates to the chief engineer that circumstances beyond the control of the applicant necessitate the extension of time.

(e)(1) The applicant shall file a notice of completion of diversion works and the statutorily required field inspection fee with the chief engineer no later than March 1 following the deadline to construct the diversion works. The notice of completion of diversion works shall be filed on a form prescribed by the chief engineer.

(2) If a water flowmeter has been required by the chief engineer as a condition of the permit, the applicant shall also file a notice of completion of installation of a water flowmeter on a form prescribed by the chief engineer. This form shall be due at the same time that the notice of completion of diversion works form is due.

(f)(1) The applicant shall be sent a notice by the chief engineer giving the applicant 30 days to show that the diversion works were completed within the time allowed in accordance with the terms, conditions, and limitations of the approval of application and to pay the field inspection fee, if it has not already been paid, under either of the following conditions:

(A) A notice of completion of diversion works has not been completely and timely filed with the chief engineer.

(B) Information on file in the office of the chief engineer indicates that the diversion works were not properly constructed within the time allowed to construct the diversion works, including any authorized extensions of time.

(2) The permit shall be dismissed and its priority forfeited if the applicant fails to perform the following:

(A) To demonstrate that the diversion works were completed within the time allowed by the approval of application; and

(B) to pay the statutorily required field inspection fee, if it has not already been paid. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712, K.S.A. 82a-713, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-8-6. Perfection of a water right. (a) Except for municipal use, a reasonable period of time to perfect a water right shall be no fewer than four full calendar years following the deadline for construction of the diversion works. If the time to construct the diversion works is extended, the perfection period shall be extended to no fewer than four full calendar years beyond the final deadline to construct the diversion works, unless the owner of the approval of application objects.

(b) A reasonable time to perfect a water right for municipal use shall be no fewer than 20 full calendar years plus the remainder of the calendar year in which the application was approved. Each holder of a permit for municipal use of water shall submit a progress report to the chief engineer 10 full calendar years after the permit was issued. The report shall be submitted on a form prescribed by the chief engineer. The report shall meet the following conditions:

(1) Compare the annual water use projected in the original application with the actual annual water use for the prior 10 years; and

(2) document compliance with an approved conservation plan, if one had been required. If the 10-year review by the chief engineer shows that actual annual water use is significantly less than originally projected, the holder shall revise the estimated annual water use for the next 10 years. If it is in the public interest, the total authorized annual quantity of water for the next 10 years shall be reduced by the chief engineer to a reasonable annual quantity based on the municipal user's revised estimates of annual water use for the next 10 years. If the 10-year review indicates that a required conservation plan was not being complied with or that the conservation plan does not meet the Kansas water office's conservation guidelines for municipal users, as in effect at the time of the review, an order requiring any of the following shall be issued by the chief engineer:

(A) That the conservation plan be amended to comply with current guidelines;

(B) that the user comply with the provisions of the approved conservation plan; or

(C) both of the requirements in paragraphs (b) (2) (A) and (B).

(c) If the applicant demonstrates to the chief engineer that a longer perfection period is necessary to justify purchase or construction of infrastructure related to the diversion, treatment, or distribution of water that actually is being built, the original time to perfect a water right for municipal use or other public entity, including a utility, may be extended for a period not to exceed a total time to perfect of 40 years.

(d) For good cause shown by the applicant, a reasonable extension of time to perfect a water right shall be allowed by the chief engineer if the request for extension is filed pursuant to the terms of K.A.R. 5-3-7 and is accompanied by the statutorily required filing fee.

(e) If water use reports and other information on file in the office of the chief engineer indicate that no water was applied to the authorized beneficial use during the time allowed to perfect the water right, including any authorized extensions of time, the owner of the approval of application as shown in the records of the chief engineer shall be sent a notice by the chief engineer, giving the owner 30 days to show that water was put to beneficial use within the terms, conditions, and limitations of the permit during the perfection period. If the owner fails to demonstrate that water was so used, the permit shall be dismissed and its priority forfeited. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-707(e), K.S.A. 82a-712, K.S.A. 82a-713, and K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

5-8-7. Extensions of time to perfect a water right. (a) For all beneficial uses of water, except municipal use, the total time to perfect the water right, including extensions of time, shall not exceed 10 years after the calendar year in which the diversion works were required to be completed unless one or more of the following “extenuating circumstances” exist.

(b) “Extenuating circumstances” shall include the following:

(1) Circumstances beyond the control of the owner of the approval of application that have unduly restricted the owner’s ability to perfect the water right;

(2) actions or omissions by the chief engineer that make it necessary to extend the time to perfect; and

(3) for applications with a priority before May 1, 1978, the unavailability or lack of credibility of records of water use, crops grown, and the number and location of acres actually irrigated, and other relevant information during the perfection period, but other records or information is available for a period after the perfection period and would reasonably represent the application of water to beneficial use in accordance with the terms, conditions, and limitations of the permit.

(c) The burden shall be on the owner of the approval of application to document the extenuating circumstances described in subsection (b) and justify to the chief engineer the need for the extension of time to perfect the water right.

(d)(1) Extensions of time to perfect for applications with a priority before May 1, 1978, may be granted in any reasonable increment of years. The total amount of time allowed to perfect the water right shall be reasonable.

(2) Extensions of time to perfect a water right for nonmunicipal use, with a priority on or after May 1, 1978, may be granted in any increment of time until the total time to perfect equals 10 years. After the total time allowed to perfect the water right equals 10 years, extensions of time shall be granted in one-year increments only.

(e) Extensions of the time to perfect a water right for municipal use of water that can be justified shall be extended in five-year increments or less after the original 20-year time period to perfect the water right has elapsed. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712 and 82a-713; effective Sept. 22, 2000.)

5-8-8. Owner required to allow chief engineer to conduct timely field inspection for certification. (a) In order to allow the chief engineer to conduct a timely field inspection to certify a water right, the owner of an approval of application shall perform the following:

(1) Operate the diversion works in the same manner that they were operated when water was applied to beneficial use during the perfection period, so that an accurate rate-of-diversion test can be conducted by the chief engineer;

(2) allow the chief engineer access to the diversion works and the authorized place of use for the purpose of making the field inspection; and

(3) allow, cooperate with, and assist the chief

engineer in any other ways necessary for the chief engineer to conduct the field inspection.

(b) The owner of the approval of application shall allow the field inspection to be conducted within 365 days after the chief engineer has sent the owner of the approval of application a restricted letter requesting that the chief engineer be allowed to conduct a field inspection. If the owner does not cooperate with, assist, and allow the chief engineer to conduct a field inspection, without good cause, within one year after the restricted letter is sent by the chief engineer, an order shall be issued by the chief engineer requiring the owner of the approval of application to comply with the terms of the restricted letter. The order shall also be sent by restricted mail. If the owner fails to comply with the order of the chief engineer, an action shall be brought by the chief engineer to enforce the order of the chief engineer pursuant to the act for judicial review, and civil enforcement of agency actions, K.S.A. 77-624 et seq. and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-714; effective Sept. 22, 2000.)

Article 9.—TEMPORARY PERMITS

5-9-1. Application for temporary permit acceptable for filing. To be acceptable for filing, an application for temporary permit to appropriate water for beneficial use shall meet the following requirements: (a) Be made on the form prescribed by the chief engineer;

(b) be signed by the applicant or an authorized representative of the applicant;

(c) be accompanied by the statutory application fee;

(d) contain all the information requested for the proposed use as set forth in the prescribed application form; and

(e) include any other information requested by the chief engineer that is necessary to understand the application. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-727; effective May 1, 1979; amended Oct. 24, 2003.)

5-9-1a. Term permit application. Each application for a term permit shall meet the following requirements: (a) Be submitted on a form prescribed by the chief engineer; and

(b) be accompanied by the fee for any new application to appropriate water for beneficial use specified in K.S.A. 82a-708a(b), and amendments thereto. (Authorized by K.S.A. 82a-706a; imple-

menting K.S.A. 82a-706a, K.S.A. 2007 Supp. 82a-708a(b), and K.S.A. 82a-709; effective Oct. 31, 2008.)

5-9-1b. Approvals and extensions of term permits. (a) Except as specified in subsection (b), each approved term permit shall be valid for five years or less. A term permit shall not be extended for a total of more than five years, including the original approval.

(b) (1) Term permits for contamination remediation may be initially issued for not more than 20 years and may be extended in increments of not more than 10 years, for a total period not to exceed 40 years.

(2) Term permits for hydraulic dredging may be initially issued for not more than 10 years and may be extended in increments of not more than 10 years, for a total period not to exceed 30 years.

(3) Term permits for fire protection may be initially issued for not more than 20 years and may be extended in increments of not more than 10 years, for a total period not to exceed 30 years.

(4) Term permits for the use of water containing more than 5,000 milligrams of chlorides per liter of water may be initially issued for not more than 10 years and may be extended in increments of not more than 10 years, for a total period not to exceed 20 years.

(c) An application for new term permit or a request to extend an existing term permit that does not meet the criteria specified in subsections (a) and (b) shall not be approved. If the applicant proposes to continue the water use, the applicant shall amend the new application or file a new application. Approval of the amended or new application by the chief engineer shall be received by the applicant before the proposed water use may continue. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and 82a-712; effective Oct. 31, 2008.)

5-9-1c. Request to extend a term permit. Any term permit may be extended as provided in K.A.R 5-9-1b if the request to extend the term permit meets the following requirements: (a) Is received at least 30 days before the expiration of the term permit;

(b) is signed by the holder of the term permit or its authorized agent;

(c) meets one of the following conditions:

(1) Will extend the total term of the permit for five years or less; or

(2) will extend the total term of the permit in

excess of five years, if the application meets the requirements of safe yield, allowable appropriation, and similar regulatory criteria; and

(d) includes all of the following:

(1) Good cause for extension of the term is provided;

(2) approval of the extension will not impair an existing water right or permit;

(3) extension of the term permit will not prejudicially and unreasonably affect the public interest;

(4) the applicant has complied with the terms, conditions, and limitations of the previous term permit; and

(5) the applicant has access to the proposed point of diversion and the proposed place of use. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and 82a-712; effective Oct. 31, 2008.)

5-9-1d. No water right perfected under term permit. No water right shall be perfected pursuant to a term permit. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and 82a-712; effective Oct. 31, 2008.)

5-9-2. Priority. Upon receipt in the office of the chief engineer of an acceptable application for temporary permit to appropriate water, accompanied by the statutory application fee, a stamp showing the date and time of receipt shall be placed on the application form. The date and time of receipt of the application shall establish the priority to the use of the water. The priority shall terminate on the date when use of water will be discontinued as set forth in the application or any authorized extension of time thereof. (Authorized by K.S.A. 82a-727; effective May 1, 1979.)

5-9-3. Quantity. A temporary permit shall not be granted for a quantity in excess of 1,000,000 gallons except for dewatering purposes or when water is to be diverted from a source located on a construction site and used on the construction site in connection with a project that the chief engineer has approved under the authority of K.S.A. 82a-301 through 305a or K.S.A. 24-126. (Authorized by K.S.A. 82a-727b; implementing K.S.A. 82a-727; effective May 1, 1979; amended Dec. 3, 1990.)

5-9-4. Place of use limitation. A temporary permit shall not be granted for more than one

place of use. (Authorized by K.S.A. 82a-727; effective May 1, 1979.)

5-9-5. Point of diversion limitation. A temporary permit shall not be granted authorizing more than one point of diversion from any source of supply. (Authorized by K.S.A. 82a-727; effective May 1, 1979.)

5-9-6. Approval of application. The approval of an application for a temporary permit shall be by endorsement on the application by the chief engineer. The endorsement shall set forth the terms, limitations, and conditions necessary for the protection of the public interest. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-727; effective May 1, 1979; amended Oct. 24, 2003.)

5-9-7. Extension of time. For good cause shown by the applicant the chief engineer may grant an extension of time to continue the use of water under a temporary permit beyond the date authorized as shown in the approval of the application. The term of a temporary permit shall not exceed six (6) months including any authorized extension of time thereof. (Authorized by K.S.A. 82a-727; effective May 1, 1979.)

5-9-8. Ownership. A temporary permit for the appropriation of water shall not be transferable. (Authorized by K.S.A. 82a-727; effective May 1, 1979.)

5-9-9. Reserved.

5-9-10. Application fee for a temporary permit. The fee for an application for a temporary permit or extension of a temporary permit shall be twenty-five dollars (\$25.00). This regulation shall be effective on and after September 1, 1982. (Authorized by and implementing K.S.A. 1982 Supp. 82a-727; effective, T-83-25, Sep. 1, 1982; effective May 1, 1983.)

5-9-11. Documentation of access to source of water supply for temporary permit. Before approval of a temporary permit, the applicant shall show that permission for access to the source of water supply has been obtained from the landowner or landowners of the property where the proposed point of diversion will be located. If permission is granted in an oil and gas lease, it shall be sufficient for the applicant to indicate this on the application for a temporary permit to appropriate water. If the water is to be obtained

from land not covered by the oil and gas lease, then the permission of the landowner or landowners shall be adequately documented. (Authorized by and implementing K.S.A. 82a-727; effective Sept. 22, 2000.)

Article 10.—WATER APPROPRIATION

5-10-1. (Authorized by K.S.A. 82a-706a, K.S.A. 1982 Supp. 82a-708a; implementing K.S.A. 1982 Supp. 82a-708a; effective, T-83-25, Sep. 1, 1982; effective May 1, 1983; revoked May 1, 1988.)

5-10-2. (Authorized by K.S.A. 82a-706a, K.S.A. 1982 Supp. 82a-708a; implementing K.S.A. 1982 Supp. 82a-708a; effective, T-83-25, Sep. 1, 1982; effective May 1, 1983; revoked May 1, 1988.)

5-10-3. (Authorized by K.S.A. 82a-706a, K.S.A. 1982 Supp. 82a-708b; implementing K.S.A. 1982 Supp. 82a-708b; effective, T-83-25, Sep. 1, 1982; effective May 1, 1983; revoked May 1, 1988.)

5-10-4. Waiver or exemptions. The chief engineer may grant an exemption or waiver from any regulation adopted by the chief engineer if it is shown that the granting of such exemption or waiver will not prejudicially nor unreasonably affect the public interest and that it will not impair an existing water right. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-711, 82a-712; effective May 1, 1983.)

5-10-5. Administration of water use among vested right holders. If, during the administration of water rights, each appropriation right and approved permit to appropriate water for beneficial use has been regulated in accordance with the provisions of K.S.A. 82a-706b, the division of water resources shall administer the water available from that source of supply among the holders who have active vested rights, including vested rights for domestic purposes, on a proportional basis and in a manner which will provide, if possible, sufficient flow in the stream for vested rights for domestic purposes. The proportionment may be accomplished by a pro rata reduction in the rate or quantity that each vested right shall be allowed to divert, by setting up a rotation system or by any other equitable method. Vested rights shall be administered in this manner unless they have been adjudicated by a court of

competent jurisdiction as to priority or rotation and then the chief engineer shall administer them in accordance with the order of the court. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-704a and K.S.A. 82a-706; effective May 1, 1986.)

5-10-6. Procedure for determination of an active vested domestic water right. The existence of an active domestic vested water right shall be determined by the chief engineer as follows:

(a) Information shall be filed with the chief engineer on a form prescribed by the chief engineer concerning the dates beneficial use of water was made, and the nature and extent of the active domestic vested right.

(b) Affidavits from at least three competent disinterested persons shall be filed by the claimant on a form prescribed by the chief engineer or other reliable substantiating evidence shall be submitted to the chief engineer by the claimant documenting the dates beneficial use of water was made, and the nature and extent of the active domestic vested right.

(c) Within a reasonable time, the staff of the division of water resources shall investigate the information submitted.

(d) Notice.

(1) Written notice of the claim shall be sent by the chief engineer to all water right owners of record in the office of the chief engineer with an authorized point of diversion within one-half mile of the claimed point of diversion.

(2) In addition, one notice in a newspaper with general circulation in the county in which the point of diversion is located shall be published by the chief engineer. Such published notice shall contain:

(A) the name of the claimant;

(B) the location of the claimed point of diversion; and

(C) a declaration that it is a claim for a domestic vested right.

(3) All notices shall be given at least 14 days prior to the close of the record.

(e) A copy of the chief engineer's draft order determining the active domestic vested water right and any comments received in response to the notices shall be furnished to the claimant by the chief engineer or the chief engineer's authorized representative.

(f) The claimant shall be given thirty days from

the date the chief engineer mails the draft to the claimant in which to submit additional information, request a hearing concerning the determination, or both.

(g) If a hearing is requested by the claimant in a timely manner, or the chief engineer deems it to be in the public interest to do so, a hearing shall be held by the chief engineer, or the chief engineer's authorized representative, within a reasonable time.

(h) The chief engineer shall issue the order determining whether the claimed active vested domestic right exists and, if so, determining the nature and extent of that right.

(i) The order determining the active vested domestic right shall be made a matter of record in the office of the chief engineer. In addition, a copy of the order shall be furnished to the claimant by the chief engineer, with instructions that it shall be filed with the register of deeds in the county in which the point of diversion is located.

(j) All vested domestic water rights shall be assumed to have a priority of June 28, 1945 until they have been adjudicated by a court of competent jurisdiction. Vested domestic rights shall be administered in accordance with K.A.R. 5-10-5. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-705a; effective Nov. 28, 1994.)

Article 11.—ASSURANCE DISTRICTS

5-11-1. Definitions. As used in these rules and regulations and the water assurance program act by the division of water resources in the administration of the water assurance program act, unless the context clearly requires otherwise, the following words and phrases shall have the meaning ascribed to them in this section.

(a) "Board" means the board of directors of a water assurance district.

(b) "Chief engineer" means the chief engineer of the division of water resources of the Kansas state board of agriculture. (Authorized by K.S.A. 82a-1345(e); implementing K.S.A. 82a-1334; effective May 31, 1994.)

5-11-2. Determination of benefits. (a) A water assurance district member may apply in writing to the board to be removed as a member of the district if that member is no longer receiving benefits from supplementing the stream by assurance reservoir releases because:

(1) the member no longer has a water right or permit; or

(2) the member's water right or permit has been reduced so that the member is no longer receiving benefits.

(b) The board shall forward the request to be removed as a member from the district to the chief engineer, who shall determine whether the member will be receiving benefits. The chief engineer shall forward the results of that determination to the board in writing within a reasonable time.

(1) If the chief engineer determines that the member will continue to receive benefits, the chief engineer shall notify the board and the member's application to be removed shall be dismissed by the board.

(2) If the chief engineer determines that the member will no longer be receiving benefits, the chief engineer shall notify the board and it shall be determined by the board whether the member will be removed from the district and the terms of removal. (Authorized by K.S.A. 82a-1345(e); implementing K.S.A. 82a-1334; effective May 31, 1994.)

Article 12.—AQUIFER STORAGE AND RECOVERY

5-12-1. Aquifer storage and recovery permitting. (a) An operator may store water in an aquifer storage and recovery system under a permit to appropriate water for artificial recharge if the water appropriated is source water. The requirements of article 12 of the rules and regulations adopted by the Kansas department of agriculture, division of water resources are in addition to any requirements of the Kansas department of health and environment concerning underground injection wells, including article 46 of the rules and regulations adopted by the Kansas department of health and environment.

(b) Each application for a permit to appropriate water for artificial recharge shall describe the horizontal and vertical extent of the basin storage area in which the source water will be stored.

(1) The horizontal extent shall be determined by a closed boundary within which the recharge system used to store the water will be physically located. The recharge system may include recharge pits, recharge trenches, recharge wells, or other similar systems that cause source water to enter the storage volume of the basin storage area, either by gravity flow or by injection. The basin storage area may be subdivided into smaller areas

representative of the areas that may be recharged by the individual recharge systems.

(2) The vertical extent shall be defined by a minimum and a maximum index water level for the basin recharge storage area, or for each subdivided area within the basin storage area if the basin storage area is subdivided. The minimum index water level shall be the lowest water level within the basin storage area, or smaller subdivided area if the basin storage area is subdivided, that occurred within the 10 years before the filing of the application for a permit to appropriate water, or a period of time longer than 10 years demonstrated by the applicant to reflect the lowest water level. If the basin storage area is subdivided, measurements from the same year shall be used to determine the minimum index water level for each subdivision. The maximum index water level shall represent the maximum storage potential for the basin storage area.

(c) An application for a permit to appropriate water for artificial recharge shall set forth the maximum annual quantity and maximum rate of diversion of source water.

(d) (1) Each application for a permit to appropriate water for artificial recharge shall include a methodology for accounting for water stored in a basin storage area both on an annual basis and on a cumulative basis so that recharge credits can be calculated. If more than one application for a permit to appropriate water for artificial recharge relates to the same aquifer storage and recovery system, each application shall use the same methodology for accounting for water stored in the basin storage area. The accounting of the water balance of all water entering and leaving the basin storage area shall be determined by using sound engineering methods based on actual measurements, generally accepted engineering methodology, or a combination of both.

(2) Approval of any application for a permit to appropriate water for artificial recharge shall be contingent upon the chief engineer's approval of the method for accounting for the basin storage area.

(e) An applicant for recovery of water stored by the holder of a permit to appropriate water for artificial recharge to store water in a basin storage area shall obtain a permit separate from the aquifer storage permit to appropriate water for beneficial use for each well used to recover the water stored. The maximum annual quantity of water that may be appropriated for this purpose shall be

no more than the maximum cumulative recharge credits available to the operator of the aquifer storage and recovery system. These credits shall be determined by the accounting methodology approved under a permit to appropriate water for artificial recharge pertaining to the aquifer storage and recovery system. In determining whether diversion of the annual quantity impairs other water rights, the following data may be considered by the chief engineer:

(1) The maximum storage volume available in the basin storage area;

(2) the spatial distribution of recharge and withdrawal systems;

(3) the maximum rate of diversion at which the water will be withdrawn; and

(4) any other relevant information.

Recharge credits may be accumulated over more than one year, and any amount of recharge credits available may be withdrawn in accordance with the permit if the withdrawal does not impair other water rights.

(f) The approval of application, if the water to be diverted is the water artificially recharged into the basin storage area, shall be conditioned upon the following:

(1) Generally accepted engineering methodology;

(2) a maximum annual quantity that does not exceed the recharge credits; and

(3) an annual reporting that complies with K.A.R. 5-12-2. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711 and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-12-2. Aquifer storage and recovery accounting.

(a) In addition to annual water use reporting requirements pursuant to K.S.A. 82a-732, and amendments thereto, on June 1 of each year the permit holder of an aquifer storage or recovery system shall report an accounting of water in the basin storage area to the chief engineer and to any groundwater management district identified in subsection (c) of this regulation. The annual report for the preceding calendar year shall account for all water entering and leaving the basin storage area and shall specifically compute the amount of recharge credits held in the basin storage area.

(b) The report shall be in the form prescribed by the chief engineer and shall address the items in the water balance for the basin storage area, which may include the following amounts:

- (1) Natural and artificial recharge;
- (2) groundwater inflow and outflow;
- (3) evaporation and transpiration;
- (4) groundwater water diversions from all non-domestic wells;
- (5) infiltration from streams;
- (6) groundwater discharge to streams;
- (7) the calculated recharge credits; and
- (8) any other information that in the opinion of the chief engineer is pertinent to the basin storage and surrounding areas.

The annual accounting shall specifically take into account the amounts of natural recharge, artificial recharge, groundwater inflow, groundwater outflow, evapotranspiration, and groundwater pumpage. Groundwater pumpage shall include recharge credits withdrawn as well as pumpage from all nondomestic wells in the basin storage area. The annual accounting shall include any additional items within a basin storage area that would be necessary to determine the amount of recharge credit available for recovery.

(c) If any part of the basin storage area is within the boundaries of a groundwater management district, the permit holder of any aquifer storage or recovery system shall furnish a copy of the annual report to the district board for comments by June 1 of each year.

(d) If a groundwater management district receives an annual report, the district may provide comments to the chief engineer if the comments are submitted to the chief engineer within 30 days of the district's receipt of the report identified in subsection (c) of this regulation.

(e) The permit holder may be required by the chief engineer to submit additional information pertinent to the system. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711 and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-12-3. Hearings. (a) A hearing shall be held by the chief engineer in the general vicinity where an applicant proposes aquifer storage and recovery before approval of any such application for aquifer storage and recovery.

(b) If any part of a proposed basin storage area is within the boundaries of a groundwater management district, the hearing required by subsection (a) of this regulation shall be held within the groundwater management district. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711 and K.S.A. 82a-712; effective Sept. 22, 2000.)

5-12-4. Aquifer storage and recovery systems in a groundwater management district. A groundwater management district may recommend rules and regulations pertaining to monitoring and accounting requirements for that portion of the basin storage area that falls within the district's boundaries. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711, K.S.A. 82a-712, and K.S.A. 82a-1028(o); effective Sept. 22, 2000.)

Article 13.—SAND AND GRAVEL PIT OPERATIONS

5-13-1. Notice of intent to open or expand a sand and gravel pit operation. Each operator desiring to open or expand a sand and gravel pit operation shall file a notice of intent to open or expand a sand and gravel pit operation on a form prescribed by the chief engineer before opening or expanding the sand and gravel pit operation.

The following information shall be included on the form:

- (a) The legal description of the sand and gravel pit operation;
- (b) the date the project began or will begin;
- (c) the number of acres of the groundwater table that will be exposed by the project at the time active mining ceases;
- (d) a legal description and a map showing the location of the groundwater that will be exposed at the time active mining ceases;
- (e) the year the pit excavation is estimated to be completed;
- (f) measures that will be used to protect the area groundwater supply from pollution; and
- (g) any other pertinent information that may be required by the chief engineer to understand the nature of the proposed project and to ensure that the provisions of K.S.A. 82a-734, and amendments thereto, and any regulations promulgated thereunder, are being complied with. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-2. Determination of “substantially adverse impact on the area groundwater supply.” (a) A sand and gravel operation shall be deemed to cause a “substantially adverse impact on the area groundwater supply,” as provided in K.S.A. 82a-734 (b) and amendments thereto, if the sand and gravel pit operation is opened or expanded after the effective date of this regulation

in any township that has an average annual potential net evaporation greater than 18 inches per year as determined from K.A.R. 5-6-3.

(b) In any township that has an average annual potential net evaporation of 18 or fewer inches per year, as determined from K.A.R. 5-6-3, the opening or expansion of a sand and gravel pit operation, shall be deemed to not cause a “substantially adverse impact on the area groundwater supply,” as provided in K.S.A. 82a-734 and amendments thereto, unless the chief engineer can demonstrate that the project will cause one or more of the following:

- (1) A direct impairment to a groundwater approval of application or water right;
- (2) an unreasonable deterioration of the groundwater quality;
- (3) an unreasonable raising or lowering of the static water level; or
- (4) prevention of any waters of the state from moving to a person having a prior right to use these waters. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-3. Determination of when groundwater evaporation is a beneficial use. On and after the effective date of this regulation, whenever the opening or expansion of a sand and gravel operation is considered to cause a substantially adverse impact on the area groundwater supply pursuant to K.A.R. 5-13-2, the evaporation caused shall be considered to be a beneficial use, and the operator shall be required to receive an approval of application, or approval of an application for change, pursuant to K.S.A. 82a-701 et seq. and amendments thereto, before exposing the groundwater table to evaporation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-711, K.S.A. 82a-721, and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-4. Exemption. (a) To the extent that groundwater evaporation causes a substantially adverse impact to the area groundwater supply pursuant to K.A.R. 5-13-2, a new application to appropriate the groundwater evaporation caused by the project shall be exempt from meeting the safe yield, allowable appropriation, or similar types of regulations adopted by the chief engineer. This exemption shall be granted if the operator meets all of the criteria in subsection (b) because exempting the quantity of water that has been, or will be, evaporated by exposing the

groundwater table beneath the proven reserves will not prejudicially and unreasonably affect the public interest and will not impair any existing water right.

(b) Except as set forth in subsection (e), in order to qualify for this exemption, the operator shall show that on December 31, 1999, all of the following conditions were met:

(1) The operator had an active, existing sand and gravel mining operation.

(2) If required, the operator had a valid surface-mining license issued pursuant to the surface-mining land conservation and reclamation act, K.S.A. 49-601 et seq., and amendments thereto.

(3) If required, the operator had made a timely application for a hydraulic dredging permit or had received a hydraulic dredging permit issued pursuant to the Kansas water appropriation act.

(4) The operator had filed the water use reports required by, and paid any civil fines assessed by the chief engineer pursuant to K.S.A. 82a-732, and amendments thereto.

(5) The operator had paid the water protection fees required by K.S.A. 82a-954, and amendments thereto.

(6) To the extent necessary to physically operate, the operator had acquired all local permits and local zoning approvals.

(7) The operator had purchased, leased, or otherwise acquired legal control over proven sand and gravel reserves.

(8) The operator had filed an application to appropriate water or filed a notice of intent to open or expand a sand and gravel pit operation with the chief engineer when required by K.S.A. 82a-734(a), and amendments thereto.

(c) It shall be the burden of the operator to show that the operator meets the requirements of subsection (b) by filing the necessary information or documentation with the chief engineer on or before December 31, 2001. An extension of time may be granted by the chief engineer for good cause if the request for extension of time is filed by the operator with the chief engineer before December 31, 2001.

(d) To the extent that the operator meets the requirements of subsection (b) above, an application to appropriate water for evaporation of the groundwater caused by exposing the groundwater table shall be exempt from complying with safe yield, allowable appropriation, and similar types of regulations adopted by the chief engineer. This exemption shall apply to all the evaporation

caused by exposing the groundwater table up to the areal extent of the proven reserves that existed on December 31, 1999.

(e) If, on the effective date of this regulation, an operator was in the process of establishing a replacement operation for an active, existing sand and gravel pit operation, an exemption shall be allowed by the chief engineer for the proposed replacement operation according to subsection (d) on terms, conditions and limitations that will neither cause impairment of existing water rights nor prejudicially and unreasonably affect the public interest if all of the following criteria are met:

(1) The proposed replacement sand and gravel operation is located outside the boundaries of all groundwater management districts and intensive groundwater use control areas.

(2) The geocenter of the proposed replacement operation is located within two miles of the geocenter of the existing, active operation.

(3) The proposed replacement operation met the provisions of paragraphs (b)(1) through (b)(6) of this regulation on December 31, 1999.

(4) The proposed replacement project meets the requirements of paragraphs (b) (7) and (8) on the effective date of this regulation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721, K.S.A. 1999 Supp. 82a-1904, and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-5. Approval of pit operations that are opened or expanded after the effective date of this regulation. Except as set forth in K.A.R. 5-13-4, pit operations that are excavated or expanded after the effective date of this regulation and that have a substantial adverse impact on the area groundwater supply shall meet one of the following conditions:

(a) Receive prior approval of the chief engineer for a new permit to appropriate an annual quantity of water sufficient to offset the evaporation caused by exposing the groundwater table in a manner described in K.A.R. 5-13-7;

(b) acquire existing water rights and receive approval of the chief engineer to change the point of diversion, place of use, and the use made of water to authorize the water rights to be used for the project in a manner described in K.A.R. 5-13-7;

(c) acquire and take out of production sufficient water rights in the manner described in K.A.R. 5-13-7 to offset the net average annual evaporation caused by exposing the groundwater table; or

(d) any combination of the above. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-6. Determination of the maximum rate of diversion and annual quantity of water.

The annual quantity of water, in acre-feet, required to be appropriated for evaporation caused by exposing the area groundwater table shall be determined by multiplying the exposed groundwater surface area of the project in acres by the potential net evaporation in inches, for Kansas, as found in K.A.R. 5-6-3, and dividing by 12. The rate of diversion shall be the natural rate of evaporation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-7. Offsets for evaporation of groundwater.

The net average annual quantity of groundwater evaporation shall be authorized, accounted for, or offset in one or more of the following ways:

(a) An approval of application or water right currently authorizes the use of water at that pit location.

(b) A new approval of application authorizes the use of water at that pit location.

(c) Acceptable quality surface water that is legally and physically available for groundwater recharge is authorized to be diverted into the proposed project.

(d) Both of the following conditions are met:

(1) Water is made available by acquiring all, or a portion of, an existing water right to any of the following:

(A) Use surface water or groundwater, or both, that is hydraulically connected to a stream channel aquifer in which the project is located;

(B) use groundwater from an unconsolidated regional aquifer that is within a two-mile radius of the geocenter of the project that is the same unconsolidated regional aquifer in which the project is located, or a hydraulically connected aquifer; or

(C) use groundwater from an unconsolidated regional aquifer that is within a 3.5 mile radius of the geocenter of the project and is the same unconsolidated regional aquifer in which the project is located, or a hydraulically connected aquifer, if the operator can demonstrate to the chief engineer that sufficient water rights to offset the evaporation caused by the project cannot be acquired within a two-mile radius of the geocenter of the project after making reasonable and prudent ef-

forts to find both proven reserves and water rights.

(2) The applicant demonstrates to the chief engineer that the acquired water right, or portion of it, will no longer be exercised by any of the following:

- (A) Placing it in the custodial care of the state;
- (B) placing it in a perpetual trust approved by the chief engineer; or
- (C) restricting its future use in some other way that the chief engineer determines to be adequate to ensure that it will no longer be exercised.

(e) Diffused surface water is diverted into the project from inside a berm surrounding the project built to prevent unacceptable quality surface water from entering the groundwater table. The average annual amount of runoff shall be determined from a map titled "figure 12. — mean annual runoff in Kansas," dated June 1982, published by the Kansas water office and hereby adopted by reference, unless the applicant demonstrates to the chief engineer, or the chief engineer has, better, more site-specific data.

(f) Any other water credit or offset that the chief engineer determines will adequately offset the groundwater evaporation caused by the pit operation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-8. Offset calculations. All of the following requirements shall apply with respect to an offset water right described in K.A.R. 5-13-7(d): (a) No physical diversion of the offset water right shall be required or allowed.

(b) The project shall receive credit for 100 percent of the net consumptive use of the water right used as an offset.

(c) Credit for acquisition of an existing surface water right shall be given for an equivalent quantity of water that is legally and physically available within the terms, conditions, and limitations of the surface water right at the location of the groundwater pit. The quantity of water available at the groundwater pit from the acquired surface water right shall be calculated by taking into account the following:

- (1) Stream gains;
 - (2) stream losses;
 - (3) transit losses;
 - (4) water supplied from intervening tributaries;
- and

(5) water needed to satisfy senior surface water rights to the same source of supply.

(d) Credit for acquisition of a groundwater right with a point of diversion located in the same stream channel aquifer as the groundwater pit shall be given for either of the following:

(1) A groundwater right located within a two-mile radius of the groundwater pit; or

(2) a groundwater right in the same source of water supply with a point of diversion located more than two miles up gradient of the geocenter of the groundwater pit for the quantity of water legally and physically available under that groundwater right at its original point of diversion, minus the transit loss between the original groundwater point of diversion and the geocenter of the proposed pit. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-9. Easements and covenants. The applicant shall provide any easements or covenants, attached to or running with the land, that are necessary to document that the offset water acquired pursuant to K.A.R. 5-13-7 will continue to be legally available to offset the evaporation of groundwater. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-721 and K.S.A. 82a-734; effective Sept. 22, 2000.)

5-13-10. Time to construct the diversion works for a sand and gravel pit operation.

(a) As used in this regulation, "completion of diversion works" means that both of the following have occurred:

(1) All equipment necessary to begin to operate a sand and gravel operation, including the hydraulic dredge, has been installed.

(2) Sufficient overburden has been excavated to begin to expose the groundwater to evaporation.

(b) A reasonable time to construct the diversion works for a sand and gravel pit operation shall be not less than one full year following the approval of the application to appropriate water.

(c) For good cause shown by the applicant, a reasonable extension of time to construct the diversion works shall be allowed by the chief engineer if both of the following conditions are met:

(1) The request for extension is filed pursuant to the requirements of K.A.R. 5-3-7.

(2) The request for extension is accompanied by the statutorily required filing fee. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-712 and 82a-713; effective Sept. 22, 2000.)

5-13-11. Time to perfect a water right for evaporation of groundwater. (a) A reasonable time to perfect a water right for evaporation of groundwater caused by a sand and gravel pit operation shall be neither less than five calendar years plus the remainder of the calendar year in which the application was approved, nor more than 20 years plus the remainder of the calendar year in which the application was approved.

(b)(1) For good cause shown by the applicant, a reasonable extension of the time to perfect the water right shall be allowed by the chief engineer if both of the following conditions are met:

(A) The request is timely filed pursuant to the terms of K.A.R. 5-3-7.

(B) The request is accompanied by the statutorily required filing fee.

(2) The total time to perfect a water right shall not exceed 40 years. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-713; effective Sept. 22, 2000.)

Article 14.—ENFORCEMENT AND APPEALS

5-14-1. Enforcement. (a) Except as set forth in subsection (i), the procedure set forth below shall be followed whenever enforcement action is taken by the chief engineer after becoming aware that a person may be performing any of the following:

(1) Violating any provision of K.S.A. 82a-701 et seq., and amendments thereto;

(2) violating any provision of a regulation adopted pursuant to that act; or

(3) violating a term, condition, or limitation of an approval of application or water right.

(b) The alleged violation shall be investigated by the chief engineer.

(c) A written report of the investigation shall be prepared by the chief engineer. This report shall include any documents regarding the matter that were relied upon or prepared by the chief engineer. This report shall be made a part of the official record of the chief engineer. If an approval of application or a water right is involved, the report shall be made an official part of that file.

(d)(1) If the investigation shows that no violation has occurred or that enforcement action is not warranted, no further enforcement action shall be taken at that time.

(2) If the investigation determines that a violation has occurred, an order shall be issued by the

chief engineer. The owner or owners of the approval of application or water right, as shown in the records of the chief engineer, shall be served by delivering a copy in person or sending a copy of the order by restricted mail. The order shall specify the following:

(A) What the violation is;

(B) what actions are necessary to correct the violation;

(C) what a reasonable time is in order to correct the violation. Extensions of time to correct a violation may be granted by the chief engineer if good cause is shown by the violator or owner;

(D) that the order will become effective immediately; and

(E) that a hearing may be requested within 15 days of the issuance of the order. The request for a hearing may include a request for a stay of the order. If the person shows good cause why a stay should be granted, a stay may be granted by the chief engineer.

(e) If the violation is corrected within the time specified by the chief engineer, the violator shall notify the chief engineer. An inspection shall be conducted by the chief engineer to determine if the violation has been corrected. If the violation has been corrected, the diversion of water may continue within the terms, conditions, and limitations of the approval of application or water right.

(f) If the violation is not corrected within the time specified by the chief engineer, an order requiring that unauthorized or illegal diversion of water cease until the violation is corrected shall be issued by the chief engineer.

(g) If the violator ceases diversion of water and then corrects the violation, the violator shall notify the chief engineer when the violation is corrected. The diversion works and the authorized place of use, as appropriate, shall be inspected by the chief engineer to determine if the violation has been corrected. If the chief engineer determines that the violation has been corrected, the order prohibiting diversion of water shall be rescinded by the chief engineer as soon as possible. When the owner or violator receives notice from the chief engineer that the order prohibiting the diversion of water has been rescinded, the diversion of water may recommence.

(h) (1) Any of the actions listed in paragraph (h)

(2) may be taken by the chief engineer if the violator performs any of the following acts and fails

to cease the diversion of water as ordered by the chief engineer:

(A) Violates any provision of K.S.A. 82a-701 et seq., and amendments thereto;

(B) violates any provision of a regulation adopted pursuant to that act; or

(C) violates a term, condition, or limitation of an approval of application or a water right.

(2) If the violator performs any act listed in paragraph (h)(1), any of the following actions may be taken by the chief engineer:

(A) Bring an action to enforce the orders of the chief engineer pursuant to the act for judicial review and civil enforcement of agency actions, K.S.A. 77-624 et seq., and amendments thereto;

(B) request the attorney general to bring an action in the name of the state of Kansas;

(C) request that criminal proceedings be brought pursuant to K.S.A. 82a-728, and amendments thereto;

(D) enter into a consent order with the violator specifying the remedial actions that shall be taken by the violator;

(E) take any other legally permissible enforcement action; or

(F) any combination of the above actions.

(i) The provisions of this regulation shall not apply to any actions taken by the chief engineer pursuant to K.S.A. 82a-706b, and amendments thereto, to enforce water right priorities and to prevent direct impairment by either of the following:

(1) Junior water rights; or

(2) illegal diversions of water.

(j) After the violator has been issued an order as specified in subsection (f), the violator may request an administrative hearing before the chief engineer in accordance with the provisions of K.A.R. 5-14-2. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706, 82a-706b, 82a-706d, and 82a-728; effective Sept. 22, 2000.)

5-14-2. Request for conference hearing.

(a) Each written request for a hearing of an order issued by the chief engineer according to K.A.R. 5-14-1 shall be served on the chief engineer within 15 days of the issuance of the order. The request for a hearing may include a request for a stay of the order. If the requester demonstrates good cause for a stay to the chief engineer, a stay of the order may be granted by the chief engineer.

(b) If a request for a hearing is not served on the chief engineer within 15 days after the order

is issued by the chief engineer, the order shall become a final agency action as defined by K.S.A. 77-607, and amendments thereto.

(c) If a request for a hearing is filed with the chief engineer within 15 days of the issuance of an order, a conference adjudicative hearing shall be held by the chief engineer.

(d) A conference hearing shall be an informal proceeding conducted according to the following criteria:

(1) The hearing officer shall regulate the course of a conference proceeding.

(2) Only parties may testify and present written exhibits.

(3) Only parties may offer comments on the issues.

(4) The hearing officer may conduct all or part of the hearing by telephone, or other electronic means, if each participant in the hearing has the opportunity to participate in the entire proceeding while it is taking place.

(5) The hearing shall be recorded at the agency's expense.

(6) Any party, at the party's expense and subject to any reasonable conditions that the chief engineer may establish, may cause a person other than the chief engineer to prepare a transcript from the chief engineer's recording or cause additional recordings to be made during the hearing.

(e) After the conference adjudicative hearing, or completion of a full adjudicative hearing if the conference hearing was converted to a full hearing, a final agency action, as defined by K.S.A. 77-607, and amendments thereto, shall be issued by the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706 and K.S.A. 82a-706b; effective Sept. 22, 2000.)

5-14-3. Administrative appeal to the secretary of agriculture.

(a) Except as set forth in subsection (f), a summary order shall be issued by the chief engineer in accordance with the provisions of K.S.A. 77-537 through 77-542, and amendments thereto, for the following types of actions:

(1) Approval or rejection of an application to change the place of use, the point of diversion, the use made of water, or any combination, filed pursuant to K.S.A. 82a-708b, and amendments thereto;

(2) approval of an application as filed, approval of a smaller maximum annual quantity of water than requested, approval with conditions neces-

sary to protect the public interest, or disapproval of an application to appropriate water for beneficial use filed pursuant to K.S.A. 82a-711, and amendments thereto; and

(3) abandonment and termination of a water right pursuant to K.S.A. 82a-718, and amendments thereto.

(b) If a request for a hearing is not filed with the chief engineer within 15 days after issuance of the summary order by the chief engineer, the order shall become final.

(c) If a request for a hearing is filed with the chief engineer within 15 days, a conference adjudicative hearing shall be held by the chief engineer in accordance with the provisions of K.S.A. 77-533 through K.S.A. 77-535, and amendments thereto.

(d) After the conference adjudicative hearing, an initial order shall be issued by the chief engineer in accordance with the provisions of K.S.A. 77-526, and amendments thereto.

(e) A petition for review of the initial order shall be filed with the secretary of agriculture in accordance with the provisions of K.S.A. 77-527, and amendments thereto, within 15 days of the issuance of the initial order by the chief engineer.

(f) A hearing may be held by the chief engineer in accordance with K.A.R. 5-3-4a before processing a new application to appropriate water if the chief engineer determines that one of the following conditions exists:

(1) It is in the public interest.

(2) A person demonstrates to the chief engineer that approval of the application may cause impairment of senior approvals of applications or water rights.

If the chief engineer holds a hearing before processing a new application to appropriate water, an initial order shall be issued by the chief engineer. A petition for review of the initial order shall be filed in accordance with the provisions of subsection (e) of this regulation. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-708b, K.S.A. 82a-709, K.S.A. 1999 Supp. 82a-711, K.S.A. 1999 Supp. 82a-718, K.S.A. 1999 Supp. 82a-1038, and K.S.A. 1999 Supp. 82a-1901; effective Sept. 22, 2000.)

5-14-4. Appeal of the failure of the chief engineer to timely issue a certificate of appropriation. (a) The time period specified in K.S.A. 82a-714(c), and amendments thereto, shall begin when the time authorized to perfect the wa-

ter right, including any authorized extensions of time, expires.

(b) If the chief engineer fails to issue a certificate of appropriation within the time limit specified by K.S.A. 82a-714(c) and amendments thereto, the water right owner may file a request for review with the secretary of agriculture pursuant to K.S.A. 82a-1901, and amendments thereto, within 15 days of the expiration of the time period specified in K.S.A. 82a-714(c) and amendments thereto. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-714 and K.S.A. 1999 Supp. 82a-1901; effective Sept. 22, 2000.)

5-14-5. Conditions of a request for a conference hearing. (a) Any request for a conference hearing before the chief engineer shall meet the following conditions:

(1) Be in writing and be served on the chief engineer within 15 days of the issuance of the summary order;

(2) clearly admit, deny, or explain each of the findings of facts and conclusions of law in the summary order;

(3) identify any facts and conclusions of law that the person disputes and intends to place at issue; and

(4) state any other defenses and the bases for those defenses.

(b) If the person states that the person has no knowledge of a particular factual allegation, that allegation shall be deemed denied in the request. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706 and K.S.A. 82a-706b; effective Sept. 22, 2000.)

5-14-6. Informal settlement. At any time during the proceedings conducted under K.A.R. 5-14-2, K.A.R. 5-14-3, or K.A.R. 5-14-4, the alleged violator may request a settlement conference. The request shall be in writing and shall be served on the chief engineer on behalf of the alleged violator. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 1999 Supp. 82a-1901; effective Sept. 22, 2000.)

5-14-7. Conversion of a conference hearing. (a) At any point during a conference hearing being conducted according to K.A.R. 5-14-2, the conference hearing may be converted by the chief engineer to a full adjudicative hearing to be heard by the chief engineer.

(b) The conversion of a conference hearing to

a full adjudicative hearing may be effected only upon providing notice to all parties to the original proceedings.

(c) The record of the conference hearing may be used in the full adjudicative hearing.

(d) After a conference hearing is converted to a full adjudicative hearing, the hearing officer shall perform the following:

(1) Give any additional notice to parties or other persons necessary to satisfy the requirements of a full adjudicative hearing; and

(2) conduct any additional proceedings necessary to satisfy the requirements of a full adjudicative hearing.

(e) If the conference hearing is converted to a full adjudicative hearing, the full adjudicative hearing shall be conducted according to the following criteria:

(1) The hearing officer shall regulate the course of the proceedings.

(2) The parties may testify and present exhibits.

(3) The hearing officer may allow nonparties an opportunity to present oral or written statements and exhibits.

(4) All testimony shall be given under oath.

(5) To the extent necessary for full disclosure of all relevant facts and issues, the hearing officer shall afford to all parties the opportunity to respond, present evidence and arguments, conduct cross-examination, and submit rebuttal evidence.

(6) The hearing officer may conduct all or part of the hearing by telephone or other electronic means, if each party in the hearing has an opportunity to participate in the entire proceeding while it is taking place.

(7) The hearing shall be recorded at the agency's expense.

(8) Any party, at that party's expense and subject to any reasonable conditions that the state agency may establish, may cause a person other than the state agency to prepare a transcript from the state agency's recording or cause additional recordings to be made during the hearing. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706 and 82a-706b; effective Sept. 22, 2000.)

5-14-10. Civil penalties; suspension or modification of water rights. (a) In addition to any other authorized enforcement procedures, if the chief engineer finds that any of the violations specified in K.S.A. 82a-737, and amendments thereto, have occurred, a written order shall be issued by the chief engineer stating the following:

(1) The nature of the violation;

(2) the factual basis for the violation;

(3) the civil penalty, suspension, modification of a water right or use of water, or any combination of these to be imposed; and

(4) the appropriate procedure for review pursuant to K.S.A. 82a-1901, and amendments thereto.

(b) The categories of offenses specified in subsections (c), (d), and (e) shall be applied when assessing the civil penalty for each violation. Each day on which the violation continues to occur may constitute a separate offense.

(c)(1) Each category 1 offense shall result in a civil penalty of \$100.

(2) Category 1 offenses shall include the following:

(A) A threat to divert water without authorization from the chief engineer;

(B) irrigating an unauthorized place of use that is 10 acres or less;

(C) diversion of water at a rate in excess of the authorized rate of diversion, but less than 115 percent of the authorized rate of diversion;

(D) operating and maintaining a water flowmeter or other water-measuring device required by the chief engineer that is out of compliance as specified by K.A.R. 5-1-9; and

(E) failing to file a required monthly report.

(d)(1) Each category 2 offense shall result in a civil penalty of \$500.

(2) Category 2 offenses shall include the following:

(A) Diverting water from an unauthorized point of diversion of water;

(B) irrigating an unauthorized place of use that is more than 10 acres;

(C) failure to properly implement a conservation plan required by the chief engineer;

(D) committing a waste of water;

(E) diversion of water at a rate that equals or exceeds 115 percent of the authorized rate of diversion;

(F) failure to install a water flowmeter or other acceptable water-measuring device;

(G) failure to promptly provide complete and accurate water use or other data, information, or records requested by the chief engineer, except the annual water use reports required by K.S.A. 82a-732, and amendments thereto;

(H) diversion of water in excess of the authorized quantity of water;

(I) applying water to an unauthorized type of beneficial use; and

(J) violating any condition of a water right or approval of application not specifically listed as a category 1, category 2, or category 3 violation.

(e)(1) Each category 3 offense shall result in a civil penalty of \$1,000.

(2) Category 3 offenses shall include the following:

(A) Tampering with a water flowmeter or other acceptable water-measuring device;

(B) causing a water flowmeter or other acceptable water-measuring device to show an incorrect reading by any method, including any of the following:

(i) Altering the propeller;

(ii) reversing the water flowmeter; or

(iii) running the water flowmeter in reverse by any means;

(C) failing to timely install or removing a required water flowmeter or other acceptable water-measuring device;

(D) falsifying water use or other data required by the chief engineer;

(E) denying authorized personnel of the chief engineer access as required by K.S.A. 82a-706b, and amendments thereto;

(F) violating a cease and desist order issued by the chief engineer;

(G) violating an order of the chief engineer issued pursuant to K.S.A. 82a-706b and amendments thereto;

(H) violating any order of the chief engineer issued pursuant to K.S.A. 82a-1038, and amendments thereto, relating to an intensive ground-water use control area; and

(I) violating a minimum desirable streamflow order issued by the chief engineer pursuant to K.A.R. 5-15-1 through 5-15-3.

(f) The civil penalties specified in paragraph (c)(1) may be increased if the chief engineer finds that aggravating circumstances exist. The civil penalties specified in paragraph (d)(1) may be increased or decreased if the chief engineer finds that aggravating or extenuating circumstances exist. The civil penalties specified in paragraph (e)(1) may be decreased if the chief engineer finds that extenuating circumstances exist. Extenuating circumstances and aggravating circumstances shall include the following:

(1) Prior violations;

(2) intentional noncompliance or gross negligence; and

(3) failure to correct the violation upon discovery or notification by the chief engineer.

(g) In addition to the assessment of a civil penalty or any other penalty provided for by law, any water right may be modified or suspended by the chief engineer upon the issuance of a written order finding a violation as established in subsection (a). Except as otherwise specified by regulation, violation of either a multiyear annual allocation or a condition limiting the net acres that may be irrigated in any one calendar year pursuant to an approval to allow annual rotation of the authorized place of use for irrigation shall result in the following:

(1) A two-year suspension of all or any portion of the annual water use authorized by the water right, any term permit, and any water right upon which the multiyear allocation or rotation was based;

(2) a subsequent restriction of the authorized place of use to the base acreage at a location specifically set forth in the change approval; and

(3) after any suspension has expired, a reversion to all conditions in effect on the water right before approval of the change application authorizing the multiyear allocation or rotation.

In all other cases, the term of the suspension or modification shall be determined by the chief engineer based upon the circumstances specified in subsection (f).

(h)(1) If multiple water rights or permits authorize the use of water from a single point of diversion, the water shall be considered to be used in the order of priority with the earliest priority first.

(2) If the water used exceeds the total quantity of water authorized by the water rights and permits described in paragraph (h)(1) that authorize water use from that point of diversion, all water rights and permits under which the water was lawfully diverted shall be deemed to be violated unless this presumption is rebutted by one or more of the water right owners.

(i) Any person aggrieved by an order of the chief engineer may request a review pursuant to K.S.A. 82a-1901, and amendments thereto, and after exhaustion of administrative remedies, may appeal to the district court in the manner provided by the act for judicial review and civil enforcement of agency actions. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a, K.S.A. 2007 Supp. 82a-737, and K.S.A. 2007 Supp. 82a-1901; effective Oct. 24, 2003; amended Oct. 31, 2008.)

5-14-11. Civil fines; water use reporting. (a) Each owner of a water right or approval of application who fails to perform either of the following shall be assessed a civil penalty of \$250 for each water right or approval of application that is not timely filed or that is materially incomplete or inaccurate:

(1) Timely submit an annual water use report pursuant to K.S.A. 82a-732, and amendments thereto; or

(2) submit a complete and accurate water use report as required by K.S.A. 82a-732, and amendments thereto.

(b) If the owner submits both the complete and accurate water use report and payment of the civil penalty after March 1 but before June 1, the civil penalty per water right or approval of application shall be reduced to \$50 for each water right or approval of application. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 82a-732; effective Oct. 24, 2003.)

Article 15.—MINIMUM DESIRABLE STREAMFLOWS

5-15-1. Administration of minimum desirable streamflow. (a) Except as specified in subsection (d), if the streamflow at a minimum desirable streamflow (MDS) gaging station falls below the streamflow established in K.S.A. 82a-703c, and amendments thereto, for a period of seven consecutive days, a determination of whether the following conditions have been met shall be made by the chief engineer:

(1) The actual daily average streamflow at the gage has been less than the streamflow trigger value set by K.A.R. 5-15-4.

(2) If an alluvial aquifer has a significant effect on streamflow, the static groundwater level in the alluvial aquifer above the gage is insufficient to maintain MDS in the stream.

(b) Whenever the chief engineer determines that MDS administration should occur according to subsection (d) or because the conditions specified in paragraphs (a)(1) and (2) have both been met, water rights and approvals of applications with a priority after April 12, 1984 shall be administered in order of priority as necessary to protect the appropriate minimum desirable streamflow specified in K.S.A. 82a-703c, and amendments thereto. Owners of record in the office of the chief engineer of water rights and approvals of applications that are being administered

shall be notified by the chief engineer that water rights and approvals of applications are being administered to protect MDS. This notification shall be made by certified mail, personal notice, or other verifiable means.

(c) After administration to protect MDS has begun, no person that has received notice according to subsection (b) may divert water under the authority of a water right or approval of application with a priority after April 12, 1984, unless one of the following conditions is met:

(1) The owner of the water right or approval of application has entered into an annual MDS consent order with the chief engineer in accordance with the provisions of K.A.R. 5-15-2 and is diverting water in accordance with the terms of that MDS consent order.

(2) The chief engineer has determined, in accordance with the provisions of K.A.R. 5-15-3, that administration of water rights and approvals of applications with a priority after April 12, 1984 is no longer necessary to protect MDS and has notified the owners by certified mail, personal notice, or other verifiable means that diversions may continue in accordance with the terms, conditions, and limitations of the water right or approval of application.

(d) If the streamflow at an MDS gaging station falls below the level established in K.S.A. 82a-703c, and amendments thereto, for a period of seven consecutive days and no streamflow trigger value has been set for an MDS gaging station in K.A.R. 5-15-4, a determination of whether and when MDS administration will begin and how it should occur shall be made by the chief engineer, based on the following factors:

(1) The general hydrologic conditions affecting streamflow in the stream reach;

(2) the magnitude and duration of recent streamflows;

(3) the extent to which groundwater contributes to streamflow;

(4) the effects of drought on streamflow;

(5) the existence and effect of relevant water management agreements;

(6) the magnitude of the effect that the administration of water rights with priorities junior to the MDS values would have on the streamflow; and

(7) the effect of reservoir operations.

This regulation shall be effective on and after August 27, 2002. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-703a, 82a-703b, and

82a-703c; effective, T-5-4-29-02, April 29, 2002; effective Aug. 27, 2002.)

5-15-2. Minimum desirable streamflow consent orders. (a) An annual minimum desirable streamflow (MDS) consent order according to K.A.R. 5-15-1(c)(1) may be entered into by the chief engineer and the owner of the water right or approval of application to divert surface water. This consent order shall contain the following provisions:

(1) Whenever the chief engineer has determined that the administration of water rights and approvals of applications to divert surface water with a priority after April 12, 1984 is necessary to protect the minimum desirable streamflow set by K.S.A. 82a-703c, and amendments thereto, water shall not be diverted under the authority of these water rights or approval of applications unless the owner has been notified by the chief engineer by certified mail, personal notice, or other verifiable means that either of the following conditions has been met:

(A)(i) The chief engineer has determined that the average daily streamflow has been, or is likely to be, at or above the temporary surface water diversion threshold for a period of time specified in K.A.R. 5-15-4 or set by the chief engineer according to K.A.R. 5-15-1(d); and

(ii) the chief engineer has determined that water is available to be diverted during that time period under the priority of water rights or approval of applications with a priority after April 12, 1984 without impairing senior water rights or senior water reservation rights.

(B) The chief engineer has determined that it is no longer necessary to administer water rights and approval of applications to protect the minimum desirable streamflow set by K.S.A. 82a-703c, and amendments thereto.

(2) The owner of the water right or approval of application shall properly install and maintain a water flowmeter on all points of diversion authorized by the water rights or approval of applications in accordance with regulations adopted by the chief engineer.

(3) The water right owner agrees that failure to abide by either of the following will result in the suspension of the water right or approval of application pursuant to K.S.A. 82a-737, and amendments thereto, for the remainder of the calendar year, and any other enforcement actions that may be authorized by law:

(A) The terms of the MDS consent order; or
(B) the terms, conditions, and limitations of the water right or approval of application.

(4) The water right owner agrees to comply with any other provisions that the chief engineer determines are necessary to prevent impairment, protect MDS values, and protect the public interest.

(b) If the chief engineer determines that hydrologic conditions indicate that some groundwater will be available to be pumped in the basin during the next water-use season or year by water rights or approval of applications with a priority after April 12, 1984, the owner of the water right or approval of application may enter into an annual MDS consent order pursuant to K.A.R. 5-15-1(c)(1) to divert groundwater, upon approval of the chief engineer. This consent order shall contain the following provisions:

(1) Whenever the chief engineer has determined that the administration of water rights and approval of applications to divert groundwater with a priority after April 12, 1984 is necessary to protect minimum desirable streamflows set by K.S.A. 82a-703c, and amendments thereto, groundwater shall not be diverted under the authority of the water right or approval of application unless the owner has been notified by the chief engineer by certified mail, personal notice, or other verifiable means that one of the following conditions has been met:

(A) During MDS administration during that calendar year, the owner is authorized to divert, pursuant to the owner's water right or approval of application, a quantity of water not to exceed that quantity of water set forth in K.A.R. 5-15-4 as the well pumping allowance.

(B) The chief engineer has determined that it is no longer necessary to administer water rights and approvals of applications to protect the minimum desirable streamflows set by K.S.A. 82a-703c, and amendments thereto.

(2) The owner of the water right or approval of application shall properly install and maintain a water flowmeter on all points of diversion authorized by the water right or approval of application in accordance with regulations adopted by the chief engineer.

(3) The total quantity of water authorized to be diverted under the water right or approval of application during a calendar year shall not exceed the annual quantity of water authorized.

(4) The water right owner agrees that failure to

abide by either of the following will result in the suspension of the water right or approval of application for the remainder of the calendar year, and any other enforcement actions that may be authorized by law:

(A) The terms of the MDS consent order; or
(B) the terms, conditions, and limitations of the water right or approval of application.

(5) The water right owner agrees to comply with any other provisions that the chief engineer determines are necessary to prevent impairment, protect MDS values, and protect the public interest.

This regulation shall be effective on and after August 27, 2002. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-703a, 82a-703b, and 82a-703c, and K.S.A. 2001 Supp. 82a-737; effective, T-5-4-29-02, April 29, 2002; effective Aug. 27, 2002.)

5-15-3. Cessation of minimum desirable streamflow administration. (a) Except as specified in subsection (c), whenever the chief engineer determines that both of the conditions specified in subsection (b) have been met, the administration of water rights and approvals of applications with a priority after April 12, 1984 to protect minimum desirable streamflows pursuant to K.S.A. 82a-703c, and amendments thereto, shall be declared by the chief engineer to be no longer necessary. The owners of those water rights and approvals of applications shall be notified by the chief engineer by certified mail, personal notice, or other verifiable means that the owners may recommence diverting water in accordance with the terms, conditions, and limitations of their water rights or approvals of applications.

(b)(1) The streamflows at the minimum desirable streamflow (MDS) gage have exceeded the streamflows established by K.S.A. 82a-703c, and amendments thereto, for a period of 14 consecutive days.

(2) If a significant alluvial aquifer exists, the average static water level in the alluvial aquifer has recovered sufficiently to maintain MDS in the stream.

(c) Whenever the chief engineer determines that hydrologic conditions indicate that MDS values have been met or exceeded and are likely to be maintained for the foreseeable future, MDS administration may be declared by the chief engineer to be no longer necessary even if both of

the conditions of subsection (b) have not been met.

This regulation shall be effective on and after August 27, 2002. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-703a, 82a-703b, and 82a-703c; effective, T-5-4-29-02, April 29, 2002; effective Aug. 27, 2002.)

5-15-4. Standards for minimum desirable streamflow. The streamflow trigger values, temporary surface water diversion thresholds, and well pumping allowances set forth in the following table shall be used whenever appropriate in these regulations.

MDS gaging station	streamflow trigger value	temporary surface water diversion threshold	well pumping allowance
Republican River Concordia	150 percent of the daily average MDS value* for the 60 preceding days	115 percent of MDS value* for a period of at least five days	32 percent of the maximum annual quantity of water that has not been diverted under the authority of that water right or approval of application, at the time MDS administration begins
Republican River Clay Center	150 percent of the daily average MDS value* for the 60 preceding days	100 percent of MDS value* for a period of at least five days	32 percent of the maximum annual quantity of water that has not been diverted under the authority of that water right or approval of application, at the time MDS administration begins

* “MDS value” means the minimum desirable streamflow value established by K.S.A. 82a-703c, and amendments thereto.

This regulation shall be effective on and after August 27, 2002. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-703a, 82a-703b, and 82a-703c; effective, T-5-4-29-02, April 29, 2002; effective Aug. 27, 2002.)

Article 16.—FLEX ACCOUNT

5-16-1. Definitions. As used in this article of regulations, in the Kansas water appropriation

act, and by the chief engineer in the administration of the Kansas water appropriation act, unless the context clearly requires otherwise, the following words and phrases shall have the meanings ascribed to them in this regulation. (a) “Base amount” and “BA” mean the quantity of water deposited in a flex account.

(b) “Base average usage factor” and “BAUF” mean the percentage of the “base average usage,” as this term is defined in K.S.A. 82a-736 and amendments thereto, that is multiplied by five as a part of the calculations set out by K.A.R. 5-16-5 to determine the quantity of water that may be deposited into a flex account. The BAUF shall not exceed the maximum of 90% established by K.S.A. 82a-736 and amendments thereto.

(c) “Base water right” means a vested or certified water right or rights for which the owner applies to the chief engineer to establish a flex account pursuant to K.S.A. 82a-736, and amendments thereto.

(d) “BAU” means the “base average usage” as defined in K.S.A. 82a-736, and amendments thereto.

(e) “Good standing,” only as that term is used in K.S.A. 82a-736, and amendments thereto, in reference to base water rights, means a base water right that meets the following conditions:

(1) Has been lawfully exercised within the 11-year time period specified in K.A.R. 5-16-5;

(2) has had all required water use reports filed and any civil fines assessed for failure to timely file a complete and accurate water use report paid; and

(3) has had no period of nonuse with a duration of five or more consecutive years since January 1, 1990, except for enrollment in the water right conservation program according to K.A.R. 5-7-4, enrollment in the federal conservation reserve program, or enrollment in another multiyear federal or state conservation program.

(f) “Significant water conservation measures” means actual physical changes in a water distribution system or management practices that improve water use efficiency, including the following:

(1) Conversion from flood irrigation to center pivot irrigation with a nozzle package designed to improve water use efficiency;

(2) irrigation scheduling;

(3) conversion to subsurface drip irrigation; and

(4) removal of an end gun, resulting in a significant reduction in the number of irrigated acres.

(Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2004 Supp. 82a-736, as amended by L. 2005, ch. 142, sec. 3; effective Oct. 11, 2002; amended Jan. 6, 2006.)

5-16-2. Fee to establish flex account and apply for term permit. The filing fee for establishing a flex account and applying for a five-year term permit to exercise the flex account shall be \$400. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 2001 Supp. 82a-708a(d), as amended by L. 2002, Ch. 181, § 21; effective Oct. 11, 2002.)

5-16-3. Establishing a flex account. (a) A flex account shall be established by filing an application for a flex account and a term permit on a form prescribed by the chief engineer. The five-year period shall begin on January 1 of the next calendar year for which the application has been timely filed, unless expressly authorized by the chief engineer to begin the following January 1. The application shall also show the location of all wells located within one-half mile of the proposed point of diversion, and the names, addresses, and telephone numbers of the owners of those wells. Except as set forth in subsection (e), a separate application shall be filed for each water right and each point of diversion for which the owner desires to establish a flex account. Each application shall be accompanied by the filing fee specified in K.A.R. 5-16-2.

(b) Before any application to establish a flex account and a term permit will be accepted for filing, the application shall be signed by at least one owner of the water right, or a duly authorized agent of an owner of the water right.

(c) Before the flex account can be established or the term permit approved, all of the water rights owners, or a duly authorized agent of the owners, shall verify upon oath or affirmation that the statements contained in the application are true and complete.

(d) If one or more owners refuse to sign the application or if a written request is filed by one or more of the owners to withdraw their signatures from the application before the application is approved, the application shall be dismissed.

(e) A single application to establish a flex account and apply for a term permit may be filed in the following situations:

(1) Multiple water rights authorize the diversion of water from a single point of diversion that

diverts water to an identical place of use for a single type of use.

(2) Multiple points of diversion are authorized by the chief engineer to divert water through a single water flowmeter before going to an identical place of use.

(f) The flex account shall not be established, and the term permit to exercise the flex account shall not be valid until both have been approved by the chief engineer. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2001 Supp. 82a-736; effective Oct. 11, 2002.)

5-16-4. Conditions on the term permit.

(a) The place of use authorized by a term permit shall be identical to the place or places of use authorized by the base water right or rights.

(b) The type of use authorized by a term permit shall be limited to one of the types of use authorized by the base water right or rights.

(c) The rate of diversion authorized by a term permit shall not exceed the maximum instantaneous rate of diversion authorized by the base water right or rights. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2001 Supp. 82a-736; effective Oct. 11, 2002.)

5-16-5. Maximum annual quantity of water authorized by term permit. (a) Except as set forth in subsections (b) through (e), the maximum quantity of water deposited in a flex account and authorized to be diverted in five consecutive calendar years under the authority of a term permit shall be determined in accordance with K.S.A. 82a-736, and amendments thereto, by means of these calculations:

(1) Adding the total actual, legal annual water use of the base water right or rights for the period of calendar years 1992 through 2002;

(2) dividing that total quantity of water by 11;

(3) multiplying that quantity by the BAUF; and

(4) multiplying that quantity by five.

(b) If significant water conservation measures were implemented under the base water rights at any time during the period of calendar years 1992 through 2002, the average annual quantity of water actually used may be calculated using the five consecutive calendar years immediately preceding the implementation of significant water conservation measures, but these five calendar years shall not begin before calendar year 1987. The five-year allocation under the term permit shall be determined by means of these calculations:

(1) Adding the total actual, legal annual water

use of the base water right or rights for the five consecutive calendar years;

(2) dividing that total quantity of water by five;

(3) multiplying that quantity by the BAUF; and

(4) multiplying that quantity by five.

(c) If water use records for a base water right are inadequate to accurately determine actual water use during any calendar year during the period used to determine the base average usage, then that year shall be counted as having no water use.

(d) No flex account shall be allowed if the flex account is inconsistent with the provisions of any intensive groundwater use control area created pursuant to K.S.A. 82a-1036 through K.S.A. 82a-1040, and amendments thereto.

(e) If water was authorized to be diverted for less than the entire period used to determine the base average usage, the five-year allocation shall be determined by means of these calculations:

(1) Adding the total actual, legal annual water use of the base water right or rights for the entire period used to determine the base average usage;

(2) dividing the total quantity by the number of years, or parts thereof, that water was authorized to be diverted by the chief engineer;

(3) multiplying that quantity by the BAUF; and

(4) multiplying that quantity by five.

Water rights that authorized use of water for less than two calendar years during the period used to determine the base average usage shall not be eligible for a flex account. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2004 Supp. 82a-736, as amended by L. 2005, ch. 142, sec. 3; effective Oct. 11, 2002; amended Jan. 6, 2006.)

5-16-6. Flex accounts and term permits.

(a) The duration of the flex account and term permit shall be five consecutive calendar years.

(b) There shall be no extension of a flex account or a term permit beyond the period of five consecutive calendar years originally authorized.

(c) There shall be no carryover of unused quantities of water from one flex account or term permit to another flex account or term permit.

(d) Only one flex account shall be in force for a point of diversion or a water right at any time.

(e) A water flowmeter meeting the requirements of the chief engineer shall be installed on each point of diversion authorized by the term permit. If an existing water flowmeter had been required on or after September 22, 2000 or if there is no existing water flowmeter, the water

flowmeter shall meet the requirements of the chief engineer in effect at the time the term permit is approved. If a water flowmeter was installed before September 22, 2000, the water flowmeter shall meet the requirements of K.A.R. 5-1-6(b).

(f) Only an entire water right, or a portion of a water right that has been formally divided, may be deposited in a flex account.

(g) All water diverted pursuant to a term permit and the base water rights associated with the term permit shall be counted against the quantity of water deposited in the flex account. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2001 Supp. 82a-736; effective Oct. 11, 2002.)

5-16-7. Conditions under which a base water right may be exercised. Each term permit approved by the chief engineer according to this article shall include the condition that if the term permit can no longer be exercised because of an order issued by the chief engineer, including an intensive groundwater use control area order, a minimum desirable streamflow order, or an order to administer water rights to prevent impairment, then any base water right may be exercised to the extent that all of the following conditions are met:

(a) The base water right is in priority.

(b) The annual quantity of water authorized by the base water right has not been diverted during that calendar year.

(c) The five-year allocation authorized by the term permit has not been used.

(d) The use of water under the base water right does not impair water rights senior to the base water right. (Authorized by K.S.A. 82a-706a; implementing K.S.A. 82a-706a and K.S.A. 2001 Supp. 82a-736; effective Oct. 11, 2002.)

Article 17.—WATER BANKING

5-17-1. Definitions for water banking.

As used in these water banking regulations, in the Kansas water banking act, K.S.A. 82a-761 et seq. and amendments thereto, and by the chief engineer in the administration of this act, unless the context clearly requires otherwise, the following words and phrases shall have the meanings ascribed to them in this regulation:

(a) “Bankable water right” means a water right, or portion of a water right, that meets the requirements of the following:

(1) K.S.A. 82a-764, and amendments thereto; and

(2) the water bank charter.

In calculating the portion of a water right that is bankable, credit shall be given for any water conservation practices implemented according to this regulation. The bankable portion of linked water rights shall be determined on a case-by-case basis. For a surface water right that has water available from a water assurance district, the quantity of water available from the water assurance district may be considered when determining how much of the water right is bankable.

(b) “Good standing,” only for the purposes of the Kansas water banking act and regulations, means a water right, or portion of a water right, that meets all of the following criteria:

(1) Except as set forth in paragraph (b)(2), the water right, or portion of a water right, has been lawfully put to beneficial use within the past five years.

(2) For a water right that has been enrolled in the water right conservation program (WRCP) or a water right whose authorized place of use has been enrolled in the conservation reserve program (CRP), the water right has been put to lawful beneficial use within the five-calendar-year period before enrollment in the program. A water right that is currently enrolled in the WRCP shall not be deposited in a water bank. If the authorized place of use is currently enrolled in the CRP, the water right shall not be deposited in a water bank, unless the authorized place of use has been changed to a place of use that is not enrolled in the CRP and water has actually been applied to beneficial use on the newly authorized place of use for at least one calendar year.

(3) All of the following conditions regarding the water right are met:

(A) In the five calendar years before the water right is deposited or placed in a safe deposit account, there has not been a conviction associated with that water right pursuant to K.S.A. 82a-728, and amendments thereto.

(B) No civil penalty has been assessed pursuant to K.S.A. 82a-737, and amendments thereto, against anyone for violations relating to the water right.

(C) The water right has not been suspended pursuant to K.S.A. 82a-737, and amendments thereto.

(D) No order of the chief engineer relating to the water right has been disobeyed.

(E) The applicant who is applying to deposit the water right into, or lease water from, a water bank or to withdraw water from a safe deposit account has a history of compliance with contracts with the water bank and term permits used to withdraw water from a water bank or from a safe deposit account.

(c) “Long-term rolling average,” only for the purposes of the Kansas water banking act, means a five-year running average of the net consumptive use of all the participating rights. This average shall be calculated by adding together the average net consumptive use for each participating right in a hydrologic unit.

The average shall first be computed after the water bank has been in operation for three years. For each year after the third year, another year’s data shall be added until five years of data are available. After the water bank has been in operation for five years or more, the last five years of data shall be used to calculate the average. The resulting number shall then be compared against the average annual net consumptive use of participating rights in that hydrologic unit for the representative past period.

(d) “Net consumptive use” means the gross diversion of water for beneficial use, minus the following:

(1) Waste of water, as defined in K.A.R. 5-1-1; and

(2) return flows to the source of water supply through surface water that is not waste and by deep percolation.

For irrigation use, only as used in the water banking act and regulations, net consumptive use shall be calculated as 85 percent of the actual legal gross diversions in any one calendar year or calculated using some other methodology approved by the chief engineer as complying with standard engineering practices. Net consumptive use for all other types of water use shall be calculated in accordance with a methodology approved by the chief engineer as complying with standard engineering practices.

The average annual net consumptive use for the representative past period shall be calculated by first calculating the average annual net consumptive use for each participating right for the representative past period and then adding those averages together. If a participating right did not legally divert water during any year in the representative past period or was not authorized to divert water, that year shall be counted as zero in

computing the average annual consumptive use for that water right for the representative past period.

(e) “Participating rights” means all of the water rights in a hydrologic unit that are under contract to be deposited in a water bank or safe deposit account.

(f) “Representative past period” means a period of at least 10 consecutive years occurring entirely before the date on which the water bank is chartered and having a reasonable balance of years with above-normal and below-normal precipitation. For a water right not permitted during the entire representative past period, for the sole purpose of determining the portion of that water right that is bankable pursuant to K.S.A. 82a-765(b)(9) and amendments thereto, the water bank may select a different representative past period, but the bankable portion of each water right shall be the lesser of either of the following:

(1) The annual quantity of water perfected; or

(2) the average percentage of water rights determined to be bankable, for all water rights in that hydrologic unit that were permitted for the representative past period occurring entirely before the date on which the bank was chartered.

(g) “Severely depleted groundwater aquifer” means an aquifer that meets any of the following criteria:

(1) The chief engineer has declared the aquifer to be an aquifer in need of recovery pursuant to K.S.A. 2-1919, and amendments thereto.

(2) The average static water level decline in the hydrologic unit, based on a representative sample of wells distributed throughout the hydrologic unit, in the 20 calendar years immediately preceding the calendar year in which the water bank was chartered is substantially greater than the average annual variability in the static water level in the hydrologic unit.

(3) The average yield of the groundwater aquifer is not sufficient to meet the 50 percent chance net irrigation requirements (N.I.R.) for crops typically grown in the hydrologic unit using methods of irrigation typically used in that hydrologic unit.

(h) “Severely depleted stream course” means a stream reach that has been declared by the chief engineer to be a stream reach in need of stream recovery pursuant to K.S.A. 2-1919, and amendments thereto.

(i) “Water conservation practices” means actual physical changes in a water distribution system or

management practices that were made to improve water use efficiency during the representative past period, including the following:

- (1) Conversion from flood irrigation to center pivot irrigation with a nozzle package designed to improve water use efficiency;
- (2) irrigation scheduling;
- (3) conversion to subsurface drip irrigation; and
- (4) removal of an end gun, resulting in a reduction in the number of irrigated acres.

The applicant shall have the burden of documenting the implementation of water conservation practices that could have altered the results of the calculation of the portion of the water right that is bankable, to the detriment of the applicant. (Authorized by and implementing K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-2. Application to deposit a water right into a water bank or withdraw a deposit.

(a) Each water right owner proposing to deposit all or a portion of a water right into a water bank shall complete an application on a form prescribed by the water bank and approved by the chief engineer. The application shall be filed with the water bank on or before December 31 of the year preceding the first calendar year in which the deposit will be made. A water right, or a portion of a water right, may be deposited only in increments of full calendar years. The application shall contain the following information concerning the water right, or portion of the water right, that is proposed to be deposited:

- (1) The file number of the water right to be deposited;
- (2) if the water right is a vested right or an appropriation right that has been certified by the chief engineer, specification of that status;
- (3) the hydrologic unit from which the water right is authorized to withdraw water;
- (4) the calendar years during which the water right will be on deposit. This period shall not exceed five years; and
- (5) any CRP contracts that were in effect for any part of the representative past period.

(b) A water right may be withdrawn from deposit only if both of the following conditions are met:

- (1) The water right has not been leased in whole or part.
- (2) An application to withdraw the water right from deposit is made before July 1 of the calendar year for which the deposit has been made. With-

drawal of a water right during one calendar year also shall withdraw the water right from deposit in any subsequent years for which the water right may have been deposited. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763, K.S.A. 2003 Supp. 82a-764, and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-3. Contract for deposit of a water right.

(a) Each water right owner that has an application approved for the deposit of all or a portion of a water right into a water bank and that desires to deposit all or a portion of the water right into the water bank shall enter into a contract with the water bank that includes the following provisions and information:

- (1) The file number of the water right to be deposited;
- (2) the hydrologic unit from which the water is authorized to be withdrawn;
- (3) the calendar years during which the water right will be on deposit, which shall not exceed five years;
- (4) the quantity of water to be deposited;
- (5) the terms of payment for the deposit;
- (6) if a portion of a water right is deposited, an agreement that the quantity of water pumped under the portion of the water right that is not deposited shall not exceed the difference between the bankable portion of the water right and the amount deposited; and
- (7) an acknowledgment of the specific fines or suspension penalties that will be imposed for violation of the contract.

(b) The water bank shall notify the chief engineer of each water right deposit before the deposit is leased. This notice shall include a determination of the annual quantity of water that is bankable for each water right and the portion of the bankable quantity of the water right that has been deposited. If an entire water right is deposited, no water may be pumped under that water right, except under the authority of a lease from a water bank and a term permit issued by the chief engineer to exercise that lease. If a portion of a water right is deposited, the annual quantity of water pumped under the portion of the water right that is not deposited shall not exceed the difference between the bankable portion of the water right and the amount deposited. An order may be issued by the chief engineer after the deposit notifying the owner of the annual quantity

of water, if any, that may be diverted under the original water right to prevent the net consumptive use of the water right from being increased. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-4. Application to lease water. (a)

Each person proposing to lease water from a water bank shall complete an application for a contract to lease water on a form prescribed by the water bank and approved by the chief engineer and an application for a term permit. The application for the contract shall be filed with the water bank. The application for a term permit shall be filed with the chief engineer. Each application shall include the following information concerning the water proposed to be leased:

- (1) The quantity of water to be leased;
- (2) the proposed maximum rate of diversion;
- (3) the calendar years during which water is proposed to be leased, which shall not exceed the length of the water bank charter plus three calendar years;
- (4) the location of the proposed point of diversion, including the hydrologic unit;
- (5) the proposed place of use;
- (6) the proposed use made of water;
- (7) the water flowmeter reading from the proposed point of diversion, if the water will be diverted from an existing point of diversion, at the time the application is filed;
- (8) the file numbers of the other water rights and approvals of applications that authorize use of water from the proposed point of diversion; and
- (9) if the proposed use is for irrigation, the number of acres that will be irrigated and the number of acres of each type of crop that will be grown.

(b) Any water bank may enter into a lease extending beyond the length of the water bank charter only if both of the following conditions are met:

- (1) The water bank charter has a procedure approved by the chief engineer that sets forth how the leases will be administered if the water bank is dissolved.
- (2) The bank charter assigns the responsibility and cost of administering the leases after the water bank is dissolved to a responsible person or entity.
- (c) Any applicant whose application meets all the criteria in subsections (a) and (b) may enter

into a contract to lease water from the water bank if sufficient water rights have been deposited in the same hydrologic unit where the point of diversion and the place of use are proposed to be located to cover the lease. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-5. Contract to lease water. Any person who has an application approved by the water

bank for the lease of water from the water bank may enter into a contract with the water bank to lease water. The contract shall be entered into before a term permit can be issued by the chief engineer and shall include the following information and provisions:

- (a) The quantity of water to be leased;
- (b) the maximum rate of diversion at which the leased water will be diverted;
- (c) the calendar years during which water will be leased, which shall not exceed the length of the water bank charter plus three calendar years;
- (d) the location of the point of diversion where the leased water will be diverted, including the hydrologic unit;
- (e) the use made of the water to be leased;
- (f) the place of use of the water to be leased. The place of use shall be identical to a place of use authorized by an existing water right or approval of application, or shall be an entirely new place of use;
- (g) the terms of payment for the lease of water;
- (h) the penalties for breach of the lease, including those set forth in K.A.R. 5-17-13; and
- (i) a provision that if the term permit is not obtained by a certain date or the term permit is dismissed for any reason, the contract shall not be exercised. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-6. Conditions on the term permit to exercise a contract to lease water. (a) A contract to lease water may be exercised only if the

chief engineer approves an application for a term permit to divert the leased water.

(b) The following conditions shall be imposed by the chief engineer on the term permit authorizing the use of water leased from a water bank:

- (1) The maximum reasonable quantity of water that may be diverted per calendar year, as set forth in K.A.R. 5-17-17, and the maximum quantity of

water that may be diverted during the term of the permit;

- (2) the maximum rate of diversion;
- (3) the term of the permit, which shall not exceed the length of the water bank charter plus three calendar years;
- (4) the authorized point of diversion;
- (5) the authorized place of use;
- (6) the authorized use made of the leased water;
- (7) a provision that the diversion shall not cause the impairment of any existing water rights;
- (8) a provision that the diversion shall not cause an increase in depletion to any severely depleted groundwater aquifer or severely depleted stream course;
- (9) a provision that the leased water shall be diverted from, and used within, the same hydrologic unit where the water rights were deposited; and
- (10) a provision that any violation of a term permit used to exercise a lease shall make the permittee subject to the penalty provisions of K.S.A. 5-17-13. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-7. Contract to deposit water in a safe deposit account. (a) Each person proposing to deposit water into a safe deposit account shall enter into a contract with the water bank on a form prescribed by the water bank and approved by the chief engineer. The contract shall include the following information and provisions and any other provision needed to ensure that the deposit complies with the provisions of the Kansas water banking act and regulations:

- (1) The term of the contract, which shall be for a specific number of calendar years and shall not exceed the length of the water bank charter plus three years;
- (2) the proposed deposit of water, which shall be from a water right that is bankable;
- (3) the water right from which water is being deposited. The water right shall be in good standing and shall be vested or certified;
- (4) the hydrologic unit from which water is being deposited;
- (5) the terms of payment for the deposit and a provision that any fees paid are not refundable if the water user voids the contract, or causes it to be void, for any reason;
- (6) the location of the point of diversion au-

thorized by the water right that is proposed to be deposited;

- (7) the water right file numbers of any linked water rights that are proposed to be deposited; and

(8) a provision that the contract shall be entered into by December 31 of the year preceding the first year for which the owner desires to make a deposit in the safe deposit account.

(b) The amount of water that may be deposited in any year shall not exceed 25 percent of the quantity of unused water from the preceding year.

(c) At the end of the term of the contract to deposit water in a safe deposit account, including any extensions of time, all water in the account shall be forfeited.

(d) There shall not be multiple safe deposit accounts for any point of diversion.

(e) The term of a safe deposit account may be extended by the chief engineer upon request of the owner for a period not to exceed the length of the water bank charter plus three calendar years. Any water bank may extend a safe deposit account beyond the length of the water bank charter only if both of the following conditions are met:

(1) The water bank charter has a procedure approved by the chief engineer that sets forth how the safe deposit accounts will be administered if the water bank is dissolved.

(2) The bank charter assigns the responsibility and costs of administering the accounts after the water bank is dissolved to a responsible person or entity. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-8. Depositing water in a safe deposit account. (a) Each calendar year in which water is deposited, the depositor shall file a deposit slip, on a form prescribed by the water bank and approved by the chief engineer, with the water bank indicating the quantity of water that was unused and the quantity of water that the depositor proposes to deposit.

(b) Water shall be deposited in an existing safe deposit account no later than March 1 of the year following the calendar year in which the water was not used.

(c) When the deposit is made, the depositor shall furnish the water bank with the following information:

(1) The water flowmeter readings at the beginning and end of the calendar year in which the water was not used under the water right; and

(2) the quantity of water proposed to be deposited.

(d) The water bank shall accept for deposit the quantity of water that meets the provisions of the water bank charter and the Kansas water banking act and regulations. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-9. Term permit to use water that was deposited in a safe deposit account. (a) Before approval of a term permit to use water deposited in a safe deposit account, the water bank shall certify to the chief engineer the quantity of water that is in the safe deposit account.

(b) Before any water that has been deposited into a safe deposit account may be used, the applicant shall apply for a term permit, submit the appropriate filing fee, and receive approval from the chief engineer. Each term permit shall contain the following conditions:

(1) The maximum rate of diversion of water;

(2) the maximum quantity of water that may be diverted the remainder of that calendar year, which shall not exceed the quantity of water certified by the water bank to be in the safe deposit account;

(3) the length of the term permit, which shall not exceed December 31 of the year in which the term permit was issued by the chief engineer. No extensions of time shall be granted for this type of term permit;

(4) a provision that the use of water under the term permit shall not impair any existing water rights;

(5) a provision that the use of water under the term permit shall not cause an increase in the depletion of a severely depleted groundwater aquifer or severely depleted stream course; and

(6) a provision that violation of any of the terms of the term permit shall subject the owner to the penalty provisions of K.A.R. 5-17-13. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-10. Water bank charter proposal.

(a) Each proposed water bank charter submitted to the chief engineer shall contain all of the following:

(1) Information showing that the proposed operations and policies of the water bank are consistent with the Kansas water banking act, the Kansas water appropriation act and regulations, the Kansas state water plan, the policies of any groundwater management district that is located within the boundaries of the proposed water bank, and the water assurance district operation agreements of any water assurance district located within the boundaries of the proposed water bank;

(2) information that demonstrates that there is sufficient participation to make the water bank's operations practical and feasible, including economically;

(3) a petition declaring an intent to establish a water bank that is signed by at least five percent of the water right owners within the water bank's proposed boundaries;

(4) the names of at least five members of the proposed governing body of the water bank, their addresses, and the public and private interests that each represents;

(5) the proposed boundaries of the water bank, including information showing that the boundaries of the proposed water bank do not overlap the boundaries of another water bank;

(6) for groundwater banks, an enumeration of all the hydrologic units and sources of water supply within the water bank boundaries, including alluviums, terrace deposits, and regional aquifers, both confined and unconfined, that have similar aquifer properties. The aquifer properties shall include the saturated thickness and water level changes over the representative past period;

(7) for a water bank that includes surface water, a list of the streams and their tributaries that are to comprise the water bank and a methodology to limit the leasing of surface water so that it does not impair senior surface water rights and minimum desirable streamflow;

(8) the designation of a representative past period;

(9) a comprehensive method to account for the following:

(A) The amount of water deposited and the length of the contracts for deposit;

(B) the amount of water leased from the water bank and the length of the lease contracts; and

(C) the identification of the hydrologic units from which deposits and leases are being made;

(10) for a water bank that includes the use of groundwater, a proposed plan to ensure that the net amount of water consumed by the deposited

water rights will be at least 10 percent less than the average net amount of water consumed by the deposited water rights for the representative past period. The proposed plan shall require the comparison of the average annual net consumption for the deposited water rights for the five-year period after a water bank is chartered or rechartered with the average net consumptive use for the deposited water rights for the representative past period;

(11) a list of any severely depleted groundwater aquifers or severely depleted stream courses;

(12) a plan to ensure that there will be no increase in the depletion of severely depleted groundwater aquifers or severely depleted stream courses;

(13) a method for determining the water rights that are bankable and the portion that is bankable;

(14) a procedure for dissolution of the water bank;

(15) for a bank using groundwater, a methodology for ensuring that the total quantity of groundwater leased each year does not exceed 90 percent of the average annual quantity collectively diverted pursuant to all deposited water rights or portions of water rights from each hydrologic unit for the representative past period;

(16) for a water bank that authorizes safe deposit accounts, a methodology to ensure that the users of safe deposit accounts will not increase the consumption of groundwater; and

(17) for a water bank that authorizes safe deposit accounts, a provision setting the maximum percentage of unused water from the previous year that may be deposited in a safe deposit account.

(b) After the body wishing to charter the water bank submits the proposed water bank charter to the chief engineer, it shall be circulated by the chief engineer to any groundwater management districts and water assurance districts located within the boundaries of the proposed water banks and to the Kansas water office for comments as to whether the proposed water bank charter complies with the provisions of K.S.A. 82a-765, and amendments thereto. Comments regarding the proposed water bank charter shall be due within 30 days after comments are requested by the chief engineer, unless an extension of time is requested within the time allowed and granted by the chief engineer for good cause shown. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-765 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-11. Annual reports of water banks.

Each water bank shall file an accounting report with the chief engineer each calendar year containing the following information: (a) The file numbers of the water rights, or portion of the water rights, deposited in the water bank;

(b) the annual quantity of water authorized for diversion for each water right deposited and a determination of the bankable quantity of water associated with each deposited water right;

(c) the term of each deposit;

(d) the hydrologic unit from which each water right was deposited;

(e) the file number of each term permit authorizing a lease of water;

(f) the term of the lease;

(g) the annual quantity of water that has been leased from each hydrologic unit;

(h) the hydrologic units where the leased water was diverted;

(i) the net year-end balance of water deposited versus water leased in each hydrologic unit within the water bank's boundaries;

(j) the annual quantity of water deposited into safe deposit accounts;

(k) the annual quantity of water used from safe deposit accounts;

(l) the hydrologic unit in which water was deposited in a safe deposit account;

(m) the total year-end balance of water remaining in safe deposit accounts after the 10 percent year-end reduction for all individual accounts;

(n) the total quantity of water diverted during the last three calendar years, by type of use;

(o) the total number of acres irrigated and the number of acres of each crop grown during the last three calendar years;

(p) any contracts that were breached, the nature of the breaches, and the enforcement actions taken by the water bank; and

(q) the average annual quantity of water diverted during the representative past period of each water right that has been deposited in the water bank. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-766 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-12. Water use reports. (a) Each owner of a water right authorized for irrigation use that deposits a water right in a water bank or deposits water in a safe deposit account, and each person that leases water for irrigation use and any

linked water rights, shall file the water use report required by K.S.A. 82a-732, and amendments thereto, on or before December 1 of the year for which water use is being reported.

(b) Each owner of a water right authorized for non-irrigation use that deposits a water right in a water bank or deposits water in a safe deposit account, and each person that leases water for non-irrigation use and any linked water rights, shall file the water use report required by K.S.A. 82a-732, and amendments thereto, on or before January 10 of the year following the year for which water use is being reported.

(c) The failure of a water right owner to submit a complete and accurate water use report, including water flowmeter readings, as required by this regulation shall result in civil fines in the amounts set forth in K.A.R. 5-14-11.

(d) If a water use report is inadequate to accurately determine the actual water use during any calendar year, then that year shall be counted as having had no water use for the purpose of determining the extent to which a water right is bankable pursuant to K.S.A. 82a-764, and amendments thereto, unless the water use report is corrected as set forth in K.A.R. 5-3-5o. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-766 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-13. Enforcement. If any person violates any of the following, enforcement action may be taken by the chief engineer as specified in K.A.R. 5-14-1 and K.A.R. 5-14-10:

(a) A term, condition, or limitation of a term permit issued to authorize the diversion of leased water;

(b) a term, condition, or limitation of a term permit issued to withdraw water from a safe deposit account;

(c) a term, condition, or limitation of a water right that has been deposited in the water bank or a safe deposit account;

(d) any order of the chief engineer concerning the deposit or lease of a water right; or

(e) any order or condition placed on the use of the remainder of a water right that was partially deposited in the water bank or a safe deposit account. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-769 and K.S.A. 2003 Supp. 82a-770; effective Aug. 13, 2004.)

5-17-14. Water flowmeters. (a) The fol-

lowing points of diversion shall meet the requirements specified in subsection (b):

(1) Within a groundwater bank, all non-domestic, non-temporary wells within the boundaries of the water bank;

(2) within a surface water bank, all non-domestic, non-temporary surface water points of diversion within the boundaries of the water bank; and

(3) within a groundwater and surface water bank, all non-domestic, non-temporary points of diversion within boundaries of the water bank.

(b) While a water bank is operating, each of the points of diversion described in subsection (a) shall meet one of the following requirements:

(1) Be equipped with a water flowmeter meeting the requirements of K.A.R. 5-1-4 through K.A.R. 5-1-12;

(2) be sealed by the chief engineer; or

(3) be approved by the chief engineer as having another objectively verifiable means of determining that water has not been pumped, including capping the well, removal of the pump, or removal of a permanent power source.

(c) If a water flowmeter does not function properly whenever water is being diverted, it shall be assumed, for the purpose of determining compliance with the water right and the term permit issued to withdraw leased water or water deposited in a safe deposit account, that the diversion works have been operated continuously at the tested rate of diversion since the last time the waterflow meter was confirmed by the chief engineer or a groundwater management district to have been operating properly. If the diversion works have not been tested by the chief engineer or a groundwater management district, it shall be assumed that the diversion works have been operated continuously at the authorized rate of diversion during the entire time the water flowmeter was out of compliance. Either of the assumptions specified in this subsection may be rebutted if the water right owner submits objective documentation of the actual quantity of water diverted while the water flowmeter was out of compliance. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-766 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-15. Private sale or lease of water right facilitated by a water bank. If a water bank provides services to facilitate the sale or lease of water rights, the owner of the water rights that

are bought, sold, or leased between private parties shall be required to comply with all applicable statutes and regulations, including any regulation of the chief engineer limiting the distance that a point of diversion may be moved. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-763 and K.S.A. 2003 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-16. Priority of use of water rights and permits. (a) If multiple water rights or permits authorize the use of water from a single point of diversion, the water shall be considered to be used in the order of priority with the earliest priority first.

(b) If the water used exceeds the total quantity of water authorized by the water rights and permits described in subsection (a) that authorize water use from that point of diversion, all water rights and permits under which the water was lawfully diverted shall be deemed to be violated unless this presumption is rebutted by one or more of the water right owners. (Authorized by K.S.A. 2003 Supp. 82a-769; implementing K.S.A. 2003 Supp. 82a-769 and K.S.A. 2003 Supp. 82a-770; effective Aug. 13, 2004.)

5-17-17. Waste of leased water and safe deposit account water. For using leased water or water withdrawn from a safe deposit account, the quantity not considered to be waste for irrigation use shall be 150 percent of the value specified in K.A.R. 5-3-24 for the county where the point of diversion is located. (Authorized by K.S.A. 2002 Supp. 82a-769; implementing K.S.A. 2002 Supp. 82a-763 and K.S.A. 2002 Supp. 82a-769; effective Aug. 13, 2004.)

5-17-18. Reimbursable and non-reimbursable costs. (a) The following costs incurred by the chief engineer for assistance and services to implement the Kansas water banking act shall be reimbursable by a water bank:

- (1) The cost of reviewing and approving a proposed water bank charter;
- (2) the cost of determining the extent to which a water right is bankable and in good standing;
- (3) the cost of reviewing an annual report filed by a water bank and conducting the analysis necessary to determine if the water bank has complied with the terms of the Kansas water banking act;
- (4) extra costs incurred to require water use reports to be filed earlier than March 1, the tracking

of that information, and reporting that information to a water bank;

(5) increased costs incurred to provide other water use and water right information to water banks or water bank customers;

(6) the costs to monitor and enforce the provisions of the Kansas water banking act;

(7) the costs of meetings and other discussions with water bank officials and employees;

(8) the cost of enforcement of terms, conditions, and limitations of term permits issued to allow withdrawal of leased water and water from safe deposit accounts;

(9) if additional enforcement of water rights and permits is requested by a water bank, enforcement costs that would not have been incurred by the chief engineer in the ordinary course of business against all water rights diverting water from within the boundaries of the water bank to prevent overpumping; and

(10) the cost incurred if a water bank or a water bank customer requests the chief engineer to hold an abandonment hearing necessary to determine whether a water right is bankable that would not have been done in the ordinary course of business by the chief engineer at that time.

(b) The following costs incurred by the chief engineer for assistance and services to implement the Kansas water banking act shall not be reimbursable by a water bank:

(1) The cost of issuing a term permit to allow diversion of leased water;

(2) the cost of issuing a term permit to allow withdrawal of water from a safe deposit account;

(3) enforcement costs that the chief engineer would have incurred in the ordinary course of business to take action against all water rights diverting water from within the boundaries of the water bank to prevent overpumping; and

(4) the cost of adopting regulations to implement the act. (Authorized by K.S.A. 2002 Supp. 82a-769; implementing K.S.A. 2002 Supp. 82a-769 and K.S.A. 2002 Supp. 82a-771; effective Aug. 13, 2004.)

Articles 18 to 20.—RESERVED

Article 21.—WESTERN KANSAS GROUNDWATER MANAGEMENT DISTRICT NO. 1

5-21-1. Definitions. As used in these rules and regulations, the following words and phrases

shall have the meaning ascribed to them in this section.

(a) “Aquifer” means a geologic water-bearing formation that will yield considerable quantities of water to wells and springs.

(b) “Board” means the board of directors constituting the governing body of the western Kansas groundwater management district no. 1.

(c) “Chief engineer” means the chief engineer of the division of water resources of the Kansas state board of agriculture.

(d) “District” means the western Kansas groundwater management district no. 1.

(e) “Authorized representative of the board” means an individual designated by the board to perform duties and functions on its behalf.

(f) “Groundwater” means water below the surface of the earth.

(g) “Substantially” means within 300 feet of the approved location, but in no case closer to other wells than the minimum spacing requirements allow.

(h) “Tailwater” means that portion of the irrigation water applied which appears as run-off from the authorized place of use.

(i) “Tailwater re-use system” means a facility to collect, store and transport irrigation tailwater for reapplication to the authorized place of use.

(j) “Unconsolidated aquifer” means unconsolidated deposits that will yield water in a sufficient quantity to supply pumping wells and springs.

(k) “Waste of water” means any act or omission which causes:

(1) groundwater to be diverted or withdrawn from a source of supply and not used, managed or reappplied to a beneficial use on or in connection with land authorized as the place of use by a vested right, an appropriation right or an approved application for permit to appropriate water for beneficial use;

(2) the unreasonable deterioration of the quality of water in any source of supply thereby causing impairment of a person’s right to the use of water;

(3) groundwater intended for irrigation use to escape and drain from the authorized place of use; or

(4) groundwater to be applied to an authorized beneficial use in excess of the needs for such use.

(l) “Well” means any excavation that is drilled, cored, bored, washed, driven, dug or otherwise constructed when the intended use of such excavation is for the acquisition, diversion, or artificial

recharge of groundwater. (Authorized by K.S.A. 82a-1028(o); effective May 1, 1979; amended May 23, 1994.)

5-21-2. Tailwater control and waste. No water user shall allow water which is pumped or diverted from any aquifer to leave the land under the water user’s direct supervision and control. If the water is re-used, the user shall apply the water consistent with the approved application to appropriate water for beneficial use, vested right, or appropriation right. All water users shall construct and operate the water distribution systems in a manner as to prevent waste of water, and shall do everything necessary and proper to preserve the quality of the groundwater resources within the district. (Authorized by K.S.A. 1978 Supp. 82a-1028(o); effective May 1, 1979.)

5-21-3. Well spacing requirements. (a) Each well location described in an application for a permit to appropriate water for a beneficial use, other than domestic use, which proposes the diversion or withdrawal of water from the Ogallala formation shall be spaced a minimum of 2640 feet from all other non-domestic wells in the Ogallala aquifer.

(b) (1) Each well location described in an application to appropriate water for a beneficial use, other than domestic use, which proposes the diversion or withdrawal of water from the Dakota aquifer shall be spaced a minimum of two thousand six hundred forty (2,640) feet from any other well constructed into the same Dakota aquifer.

(2) Each Dakota well shall be sealed off between the Dakota aquifer and any other aquifers in such a manner as to prevent migration of water to or from the Dakota aquifer and any other aquifers.

(c) Each well included in an application to appropriate water for a beneficial use, other than domestic use, which proposes the diversion or withdrawal of water shall be a minimum of 1,320 feet away from a domestic well constructed into the same aquifer unless the applicant has received written permission from the neighboring well owner or the domestic wells are owned by the applicant.

(d) The location of a well or wells on an application for approval to change the point of diversion under an existing water right shall be no more than 1,320 feet from the originally authorized point of diversion and shall:

(1) not decrease the distance to other wells or

authorized well locations by more than 300 feet; or

(2) meet the minimum well spacing requirements in this regulation.

(e) A new well shall be drilled in a location substantially as shown on the approved application and the accompanying map, plat, or aerial photograph.

(f) Exceptions to this well spacing regulation may be granted on an individual basis by recommendation of the board in conjunction with the approval of the chief engineer. The applicant may be required by the board to submit information as it deems necessary in order to make the determination. (Authorized by K.S.A. 82a-1028(o); effective May 1, 1979; amended May 23, 1994.)

5-21-4. Safe yield. (a) Except as set forth in subsection (c), the district shall be closed to further new appropriations of water in all areas where the total saturated thickness of the unconsolidated aquifer, commonly known as the Ogallala, meets either of these criteria:

(1) Has been depleted by 15 percent or more since 1950, as determined according to K.A.R. 5-21-8; or

(2) is less than 40 feet thick, as determined according to K.A.R. 5-21-9.

(b) In the rest of the district, the approval of each application for a permit to appropriate water for a beneficial use, except as set forth in subsection (c), from the Ogallala aquifer, and the approval of each application for a change in the point of diversion if the diversion works have not been completed under the original approved application, shall be subject to the following criteria:

(1) The proposed appropriation, when added to the vested rights, prior appropriation rights, and earlier priority applications, shall not exceed the allowable safe yield amount for the area included within a two-mile-radius circle, which is approximately 8,042 acres, of the proposed well.

(2) For the purpose of analysis, all vested rights, certificates, permits, and prior unapproved applications shall be considered to be fully exercised, and all limitation clauses listed on permits to appropriate water and certificates shall be considered to be in force.

(3) In the case of an application for change in the point of diversion referred to in subsection (b), each application and water right with a priority earlier than the priority established by the

filing of the application for change shall be included in the analysis.

(4) The allowable annual safe yield amount shall be calculated using the following formula:

$$Q = \frac{AR}{12}$$

Q = the allowable annual safe yield amount in acre-feet per year

A = area of consideration, within a two-mile-radius circle, approximately 8,042 acres

R = average annual recharge of 0.5 inches per year

(5) If part of the radial area is located outside the district boundary, it shall be included in the depletion analysis only if the chief engineer determines that hydraulically connected groundwater exists in that portion of the area outside the district. A part of the area of consideration lying outside the state of Kansas shall not be included in the analysis.

(6) If wells authorized under a vested right, a certified water right, or a permit to appropriate water are divided by the circumference of the radial area, the authorized quantity of water shall be assigned to each well. If specific quantities are not authorized for each well, a proportional amount shall be assigned to each well.

(c) This regulation shall not apply to the following:

(1) Domestic use;

(2) temporary permits; and

(3) a new application filed to appropriate groundwater in any area of the district not closed by regulation or intensive groundwater use control area order by the chief engineer to new non-domestic, nontemporary permits and term permits for five or fewer years, meeting all of the following criteria:

(A) The sum of the annual quantity requested by the proposed appropriation and the total annual quantities authorized by prior permits allowed because of an exemption pursuant to this subsection does not exceed 15 acre-feet in a ½-mile-radius circle surrounding the proposed point of diversion.

(B) Well spacing criteria in the area have been met.

(C) The approval of the application does not authorize an additional quantity of water out of an existing authorized well with a nondomestic permit or water right that would result in a total com-

bined annual quantity of water authorized from that well in excess of 15 acre-feet.

(D) All other criteria for approving a new application to appropriate water at that location have been met.

(d) Exceptions to this regulation may be granted on an individual basis by recommendation by the board in conjunction with the approval of the chief engineer. The applicant may be required by the board to submit information necessary in order to make the determination. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective May 23, 1994; amended Sept. 22, 2000.)

5-21-5. Battery of wells. Within the boundaries of the district, an application for change of point of diversion from one well to a battery of wells shall not be approved unless the application meets the following criteria:

(a) The proposed points of diversion constitute a “battery of wells” as defined in K.A.R. 5-1-1.

(b) If the application for change has been filed pursuant to an appropriation right, the certificate shall be issued before approval of the application for change.

(c) The maximum annual quantity and maximum instantaneous diversion rate approved shall not exceed the maximum annual quantity and the maximum instantaneous diversion rate actually used during any of the three consecutive full calendar years before the application.

(d) The application meets the criteria for the approval of a new application. However, the wells comprising the battery of wells shall not be required to meet the well spacing requirements of K.A.R. 5-21-3 in relationship to each other. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective Sept. 22, 2000.)

5-21-6. Water-measuring devices. (a) Except as specified in subsections (b) and (e), each well authorized after the effective date of this regulation within the boundaries of the district shall be equipped with a water flowmeter that is installed and maintained in accordance with the specifications in K.A.R. 5-1-4 through 5-1-12. Each water right owner shall maintain the water flowmeter so that the flowmeter functions properly whenever the diversion of water can reasonably be expected to occur. If the water flowmeter fails to function properly, the owner shall promptly initiate action to repair or replace the

meter, or to correct any problems with the installation.

(b) If the owner of the water right demonstrates to the board that the installation of a water flowmeter meeting the requirements of subsection (a) is not feasible, the installation of an hour meter in lieu of a water flowmeter may be approved by the board. Installation of a water flowmeter shall be considered to be not feasible if all of the following conditions are met:

(1) The diversion works and the delivery system are both in existence before the order of the board to install a water-measuring device.

(2) The owner enters into a written agreement with the district providing that the owner will perform the following:

(A) Notify the district whenever the diversion works or the delivery system is modified; and

(B) install a water flowmeter when the diversion works or delivery system is modified, unless a waiver is granted by the board.

(3) Either of the following conditions is met:

(A) The normal operating rate of diversion is less than 200 gallons per minute.

(B) The diameter of the existing pipe is too large for the normal operating flow rate so that full pipe flow cannot be maintained through a water flowmeter.

(c) Each well location authorized before the effective date of this regulation and located within the boundaries of the district shall be equipped with a water-measuring device that was acceptable at the time the water-measuring device was required. Waivers or exemptions to the installation of a water flowmeter granted by the district before the effective date of this regulation shall be considered to be effective until one of the following occurs:

(1) The well is redrilled.

(2) The delivery system is modified.

(3) The water-measuring device is no longer functioning properly and is not promptly repaired.

(4) The district or the chief engineer orders that the well be equipped with a water flowmeter.

(d) An hour meter installation shall be deemed acceptable if all of the following requirements are met:

(1) The hour meter shall be enclosed in a weatherproof box and installed on a stand or post separate from, but adjacent to, the pumping plant base.

(2) The wiring from the pumping plant to the

hour meter shall be at least 16 gauge and shall be enclosed in a conduit.

(3) All electrical connections shall be firmly attached.

(e) The following types of water use shall be exempt from the requirements of this regulation:

- (1) Domestic use; and
- (2) temporary use. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5 and K.S.A. 2001 Supp. 82a-1903, as amended by L. 2002, Ch. 137, § 7; effective Jan. 24, 2003.)

5-21-7. Change in the use made of water from irrigation use to any other type of beneficial use. A change in the use made of water from irrigation use to any other type of beneficial use shall not be approved if any of the following conditions is met: (a) The application for change does not meet the requirements of K.A.R. 5-5-9.

(b) The rate of diversion applied for exceeds the rate of diversion as determined by a test of the normal operating rate of diversion conducted within 1,095 days before the date the application for change was filed.

(c) The maximum annual quantity of water applied for is in excess of any of the following:

- (1) The maximum annual quantity of water determined for a vested right;
- (2) the maximum annual quantity of water certified; or
- (3) the average annual quantity of water actually used in the preceding 10 calendar years, excluding those years in which the water right was enrolled in the water right conservation program, the conservation reserve program, or any other multiyear water conservation program approved by the chief engineer. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5 and K.S.A. 2001 Supp. 82a-1903, as amended by L. 2002, Ch. 137, § 7; effective Jan. 24, 2003.)

5-21-8. Percent change of saturated thickness. The map titled “percent change in saturated thickness of the High Plains aquifer, west central Kansas, 1950 to average 1997-1999” and designated as the Kansas geological survey open file report 2000-15B, dated July 25, 2000, is hereby adopted by reference. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); imple-

menting K.S.A. 82a-1028(n); effective Sept. 22, 2000.)

5-21-9. Saturated thickness. The map titled “saturated thickness of unconsolidated aquifer, west central Kansas average 1997-1999” and designated as the Kansas geological survey open file report 2000-15A, dated July 25, 2000, is hereby adopted by reference. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective Sept. 22, 2000.)

Article 22.—EQUUS BEDS GROUNDWATER MANAGEMENT DISTRICT NO. 2

5-22-1. Definitions. As used in article 22 of these regulations, by the Equus Beds groundwater management district no. 2 in the implementation of the groundwater management district act and by the division of water resources in the administration of the Kansas water appropriation act, the following terms shall have the meanings ascribed to them in this regulation, unless the context clearly requires otherwise.

(a) “Above-baseflow stage” means streamflow that is in response to a significant runoff event during which period the water-level elevation of the stream is greater than the elevation of the adjacent water table.

(b) “Aquifer” means any geologic formation capable of yielding water in sufficient quantities that it can be diverted for beneficial use.

(c) “Aquifer storage” means the act of storing water in the unsaturated portion of an aquifer by artificial recharge for subsequent diversion and beneficial use.

(d) “Aquifer storage and recovery system” means a physical infrastructure that meets the following conditions:

- (1) Is constructed and operated for artificial recharge, storage, and recovery of source water; and
- (2) consists of apparatus for diversion, treatment, recharge, storage, extraction, and distribution.

(e) “Area of consideration” means the two-mile-radius circle whose center is the location of the proposed point of diversion. The area of consideration equals 8,042 acres minus the area of the circle that meets the following conditions:

- (1) Is outside the district boundary;
- (2) is inside an intensive groundwater use control area with a declining water table; and

(3) is in an area where the bedrock is not overlain by an aquifer.

(f) “Artificial recharge” means the use of source water to artificially replenish the water supply in an aquifer.

(g) “Bank storage” means water absorbed by and temporarily stored in the banks and bed of a stream during above-baseflow stage.

(h) “Bank storage well” means a well used to divert or withdraw water from bank storage.

(i) “Baseflow” means groundwater that seeps, flows, or is otherwise naturally discharged from an aquifer into a stream.

(j) “Baseflow allocation” means the annual quantity of water assigned to a baseflow node expressed in acre-feet per calendar year. The natural discharge to the stream shall be assumed to be equivalent to the rate of flow in the stream that is equaled or exceeded 90 percent of the time.

(k) “Baseflow node” means an artificial point located in the channel of a watercourse for the purpose of allocating a proportional amount of the baseflow.

(l) “Basin storage area” means the portion of the aquifer’s unsaturated zone used for aquifer storage that has defined horizontal boundaries and is delimited by the highest and lowest index water levels.

(m) “Basin storage loss” means that portion of artificial recharge naturally flowing or discharging from the basin storage area.

(n) “Battery of wells” means either of the following:

(1) A group of two or more wells that meets the following conditions:

(A) Withdraws water from the same local source of supply;

(B) is connected to a common pump by a manifold or piping; and

(C) supplies water to a common distribution system; or

(2) a group of not more than four wells that meets the following conditions:

(A) Withdraws water from the same local source of supply;

(B) is located within a 300-foot-radius circle of the geographic center of the battery of wells;

(C) supplies water to a common distribution system;

(D) does not exceed a combined capacity of 800 gallons per minute; and

(E) has an individual pump installed in each

well with a maximum capacity of 400 gallons per minute.

A battery of wells shall be considered to be one point of diversion.

(o) “Board” means the board of directors constituting the governing body of the Equus Beds groundwater management district no. 2.

(p) “Completed substantially as shown on aerial photograph, topographic map, or plat” means within 300 feet of the location as shown on the aerial photograph, topographic map, or plat accompanying the application.

(q) “Confined aquifer” means either of the following:

(1) An aquifer overlain and underlain by impermeable layers; or

(2) an aquifer in which the groundwater is under pressure greater than atmospheric pressure and will rise in a well above the elevation at which groundwater is first encountered.

(r) “Conjunctive use” means the management of the aquifer to achieve safe yield and the operation of the aquifer in coordination with a surface water system to enhance the use of the total water supply availability, in accordance with the provisions of the Kansas water appropriation act.

(s) “Consumptive use” means gross diversion minus the following:

(1) Waste of water; and

(2) return flows to the source of water supply by at least one of the following:

(A) Through the surface water runoff that is not waste; and

(B) by deep percolation.

(t) “District” means the Equus Beds groundwater management district no. 2.

(u) “Free-water surface” means water that is exposed to the atmosphere, including lakes, ponds, and pits that intercept the water table.

(v) “Geographic center” means either of the following:

(1) The arithmetic mean of the northing and westing coordinates or measurements for each well in a battery of wells; or

(2) the apparent center of a groundwater pit.

(w) “Groundwater” means water below the surface of the earth.

(x) “Groundwater pit” means an excavation in the earth that meets all of the following criteria:

(1) Exposes the current or historic groundwater table;

(2) has caused, or will likely cause, annual evaporation of groundwater; and

(3) has a perimeter equal to or greater than the depth of the excavation.

(y) "Index water level" means water-level elevations established spatially throughout a basin storage area to be used to represent the maximum volume of a basin storage area and the volume of stored water available for recovery, based upon accounting methodology and the conditions of the permit.

(z) "Non-consumptive use" means the beneficial use of water in which essentially all of the water diverted from the source of supply is returned to the source of supply.

(aa) "Person" means a natural person, a partnership, an organization, a corporation, a municipality, and any agency of the state or federal government.

(bb) "Point of diversion" means the point at which water is diverted or withdrawn from a source of water supply.

(cc) "Primary well" means a well equipped with a flowmeter for which a standby well is available.

(dd) "Recharge" means the natural infiltration of surface water or rainfall into an aquifer from its catchment area.

(ee) "Recharge credit" means the quantity of water that is stored in a basin storage area and that is available for subsequent appropriation for beneficial use by the operator of the aquifer storage and recovery system.

(ff) "Safe yield" means the total quantity of groundwater meeting the following conditions:

(1) Can be artificially withdrawn from an aquifer; and

(2) naturally discharges to a stream without exceeding the aquifer recharge value for the area of consideration and without impairing the water rights diverting from the aquifer.

(gg) "Standby well" means a well that meets the following conditions:

(1) Is used to provide water for any of the following:

(A) Fire protection;

(B) emergency purposes; or

(C) any period during which the primary well has mechanical failure, maintenance, or power failure;

(2) is maintained in good operating condition;

(3) withdraws water from the same source of supply as the primary well;

(4) is located within 300 feet of the primary well;

(5) is limited to the same rate and quantity au-

thorized by the primary well's appropriation or vested right;

(6) is equipped with a flowmeter; and

(7) is operated only when water is temporarily unavailable from the primary well or wells, except when water is needed for fire protection or a similar type of emergency.

(hh) "Stream" means any watercourse that has a well-defined bed and well-defined banks, and that flows continuously during the calendar year, except during periods of drought.

(ii) "Surface water" means water in creeks, rivers, or other watercourses, and in reservoirs, lakes, and ponds. This term shall not include water in groundwater pits.

(jj) "Thermal exchange" means the use of water for climate control in a nondomestic building and in a manner that is essentially nonconsumptive to the source of supply.

(kk) "Unconfined aquifer" means an aquifer with a water table at atmospheric pressure.

(ll) "Waste of water" means any act or omission that causes any of the following:

(1) The diversion or withdrawal of water from a source of supply that is not used or reapplied to a beneficial use on or in connection with the place of use authorized by a vested right, an appropriation right, or an approval of application for a permit to appropriate water for beneficial use;

(2) the unreasonable deterioration of the quality of water in any source of supply, thereby causing impairment of a person's right to the use of water;

(3) the escaping and draining of water intended for irrigation use from the authorized place of use; or

(4) the application of water to an authorized beneficial use in excess of the needs for this use.

(mm) "Water balance" means the method of determining the amount of water in storage in a basin storage area by accounting for inflow to, outflow from, and changes in storage in that basin storage area.

(nn) "Water table" means the top or surface of an unconfined or confined aquifer at which the pore water pressure is atmospheric.

(oo) "Well" means any excavation that is drilled, cored, bored, washed, driven, dug, or otherwise constructed if the intended use of the excavation is for the acquisition, diversion, or artificial recharge of groundwater. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1979; amended

Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

5-22-2. Well spacing requirements. (a) Except as specified in subsections (d) and (e), the minimum spacing of all nondomestic and nontemporary wells described in an application for permit to appropriate water for beneficial use, an application for a term permit, or application to change the point of diversion shall be the following:

- (1) 1,320 feet from all nondomestic wells, groundwater pits, and baseflow nodes; and
- (2) 660 feet from all domestic wells.

(b) The minimum spacing interval from the geographic center of a battery of wells to each nondomestic well, groundwater pit, and baseflow node shall be 1,620 feet. The minimum spacing interval from the geographic center of a battery of wells to each domestic well shall be 960 feet.

(c) The minimum spacing interval from the edge of a groundwater pit to each nondomestic well, the edge of any other groundwater pit, and baseflow node shall be 1,320 feet and 330 feet to a domestic well.

(d)(1) In the areas described in the following table, the requirements specified in paragraphs (2), (3), and (4) of this subsection shall apply:

Township	Range	Section	County
23 South	6 West	31, 32 and 33	Reno
23 South	7 West	31 through 36	Reno
24 South	6 West	4 through 9, and 13 through 36	Reno
24 South	7 West	1 through 36	Reno
25 South	5 West	30 and 31	Reno
25 South	6 West	1 through 36	Reno
25 South	7 West	1 through 36	Reno
26 South	5 West	6, 7, and 8; 17 through 21; and 27 through 35	Reno
26 South	6 West	1 through 36	Reno
26 South	7 West	1 through 36	Reno

(2) The minimum spacing of all nondomestic and nontemporary wells with an authorized rate of diversion of 401 gallons per minute or more, as described in an application for permit to appropriate water for beneficial use, term permit, or application to change the point of diversion, shall be the following:

- (A) 2,640 feet from all other nondomestic wells, groundwater pits, and baseflow nodes; and
 - (B) 660 feet from all domestic wells.
- (3) The minimum spacing of a battery of wells

with a total authorized rate of diversion of 401 gallons per minute or more, as described in an application for permit to appropriate water for beneficial use, term permit, or application to change the point of diversion shall be the following:

(A) 2,940 feet from all nondomestic wells, groundwater pits, and baseflow nodes; and

(B) 960 feet from all domestic wells.

(4) The minimum spacing interval from the edge of a groundwater pit to each nondomestic well, the edge of any other groundwater pit, and baseflow node shall be 1,320 feet. The minimum spacing interval from the edge of a groundwater pit to a domestic well shall be 330 feet.

(e) The following types of wells shall not be subject to this well-spacing regulation:

- (1) A standby well;
- (2) a bank storage well;
- (3) a well authorized pursuant to the approval of an application to change the point of diversion that meets both of the following conditions:

(A) The number of wells comprising the point of diversion remains unchanged; and

(B) each point of diversion is proposed to be relocated 300 feet or less from the currently authorized location;

(4) the minimum spacing interval of nondomestic wells to domestic wells, if the domestic well owner has granted written permission to reduce the spacing interval; and

(5) the minimum spacing interval of groundwater pits to nondomestic, nontemporary, or domestic wells, if the well owner has granted written permission to reduce the spacing interval. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1979; amended Oct. 15, 1990; amended March 7, 1994; amended Jan. 10, 2003.)

5-22-3. Waste of water. It shall be a violation of these rules and regulations for any person, private corporation, public corporation, municipality, company, institution, township, county, state agency or federal agency to waste water as defined in these regulations. (Authorized by K.S.A. 1978 Supp. 82a-1028(o); effective May 1, 1979.)

5-22-4. Metering. (a) Each water flowmeter, gauge, or other measuring device required by the district shall meet the minimum specifications adopted by the chief engineer by regulation.

(b) The owner of the water right or approval of application shall perform the following:

(1) Ensure that the water flowmeter is properly installed in accordance with the specifications adopted by the chief engineer by regulation;

(2) maintain the water flowmeter in satisfactory working condition whenever the diversion works can reasonably be expected to operate; and

(3) ensure that the water flowmeter measures all of the discharge from the diversion works and does not measure any other discharge, including tailwater and sewage lagoon effluent. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1979; amended Oct. 15, 1990; amended Jan. 10, 2003.)

5-22-4a. Water flowmeter requirement.

Each nondomestic, nontemporary well meeting any of the following conditions shall be equipped with a water flowmeter that meets or exceeds the requirements of K.A.R. 5-22-4:

(a) A well operated under the authority of an approval of application issued on or after September 1, 1987;

(b) a well operated under the approval of an application for change in the place of use, the point of diversion, or the use made of the water, or any combination of these, filed after September 1, 1987;

(c) a well that meets the standards for being a standby well as set forth in K.A.R. 5-22-1;

(d) a well for which a certificate of appropriation was issued on or after July 1, 1995; or

(e) a well for which the board determines it is necessary to have a water flowmeter to ensure any of the following:

(1) The accuracy of reported water use;

(2) compliance with the terms, conditions, and limitations of the water right, approval of application, or approval of change; or

(3) nonimpairment of other water rights. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective Jan. 10, 2003.)

5-22-4b. Water flowmeter maintenance.

(a) If a water flowmeter required by the district is ever out of compliance, the owner shall promptly repair or replace the water flowmeter, or correct any problems with the installation.

(b) A water flowmeter shall be considered to be out of compliance if any of the following conditions is met:

(1) The water flowmeter registers less than 94 percent or more than 106 percent of the actual volume of water passing the water flowmeter. If necessary, this determination may be made by a field test conducted or approved by the chief engineer.

(2) The seal placed on the totalizer by the manufacturer or the manufacturer's authorized representative has been broken, or the totalizer value has been reset or altered without the authorization of the manufacturer, an authorized representative of the manufacturer, or the chief engineer.

(3) A seal placed on the water flowmeter or totalizer by the chief engineer has been broken.

(4) The water flowmeter register is not clearly visible or is unreadable for any reason.

(5) There is not full pipe flow through the water flowmeter.

(6) The flow-straightening vanes have not been properly designed, manufactured, and installed.

(7) The water flowmeter is not calibrated for the nominal size of the pipe in which the flowmeter is installed.

(8) The water flowmeter is not installed in accordance with the manufacturer's installation specifications. However, five diameters of straight pipe above the water flowmeter sensor and two diameters below the water flowmeter sensor shall be deemed the minimum required spacing, regardless of the manufacturer's installation specifications.

(9) A water flowmeter is installed at a location where the flowmeter does not measure all of the water diverted from the source of supply. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

5-22-4c. Water flowmeter testing by a nondistrict person.

If a water right owner desires to have a water flowmeter flow rate test performed by a person other than district staff to comply with any requirement of the district, that person may be approved by the board to perform a water flowmeter flow rate test if the person demonstrates to the district both of the following:

(a) The person has the training, skills, and experience necessary to properly conduct the test.

(b) The person has the appropriate water flowmeter to perform the test, and the water flowmeter has been tested for accuracy with water flowmeter test equipment that has been found to be accurate using standards traceable to the na-

tional institute of standards and technology (NIST). The equipment shall have been tested and found to be accurate within 12 months of performing the water flowmeter test. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

5-22-4d. Water flowmeter installation procedures. (a) If installation of a water flowmeter is required by the board, the owner of the approval of application or the water right shall be notified of the requirement in writing.

(b) A water flowmeter shall be installed on a new or replacement point of diversion within 30 days after the point of diversion is operational, or before the diversion of water, whichever occurs first.

(c) A water flowmeter shall be installed on an existing point of diversion within 30 days of the issuance of the water flowmeter order by the district, or before the diversion of water, whichever occurs first.

(d) An extension of time to install the water flowmeter may be granted by the board if a request for an extension of time is filed with the district before the expiration of the time to install the water flowmeter and one of the following conditions is met:

(1) The water right owner has a contract with a vendor to install a water flowmeter, but the vendor cannot complete the installation within the time allowed.

(2) Weather, site conditions, or other conditions beyond the control of the owner prevent the water flowmeter from being installed within the time allowed.

(3) The owner demonstrates any other reason constituting good cause why the water flowmeter cannot be installed within the time allowed and that granting of an extension of time will not be adverse to the public interest.

(e) The water right owner shall notify the district within 30 days after the required water flowmeter is installed. The notification shall be submitted on a form prescribed by the district.

(f) An inspection of the water flowmeter installation may be made by the district to determine if the water flowmeter has been properly installed in accordance with the requirements of K.A.R. 5-22-4, K.A.R. 5-22-4a, and K.A.R. 5-22-4b.

(g) If an inspection is made by the district, the owner shall be notified by the district of the results of the inspection in writing. (Authorized by

and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

5-22-5. (Authorized by K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective May 1, 1980; amended Oct. 15, 1990; revoked Jan. 10, 2003.)

5-22-6. Noncompliance; penalties; appeal procedures. (a) Any person may file with the board a written or verbal complaint that someone is allegedly violating any regulation of the district, any provision of the Kansas water appropriation act, or a term, condition, or limitation of an approval of application or a water right.

(b) The alleged violation shall be investigated by the district staff.

(c) A written report of the investigation shall be prepared by the district staff.

(d) If the investigation determines that a violation of a regulation of the district has occurred, an order shall be issued by the board or its designee. The order shall specify the following:

(1) What the violation of the regulation is;

(2) what actions are necessary to correct the violation;

(3) what a reasonable time is for correcting the violation. Extensions of time to correct a violation may be granted by the board if good cause is shown by the violator or owner;

(4) that the order will become effective immediately; and

(5) that a hearing may be requested within 15 days of the issuance of the order. The request for a hearing may include a request for a stay of the order. If the person shows good cause why a stay should be granted, a stay may be granted by the board.

(e) The owner or owners of the approval of application or water right, as shown in the records of the district, shall initially be notified of the violation verbally, in writing, or by other means. Regardless of the means of initial notification, a copy of the order shall also be served by delivering a copy of the order in person or by restricted mail.

(f) The record of the complaint, the investigation, and the notice of violation shall be made a part of the official records of the district.

(g) If the violation is corrected by the deadline specified by the board, the violator shall notify the district staff. An inspection shall be conducted by the district staff to determine if the violation has been corrected. If the violation has been corrected, the diversion of water may continue within

the terms, conditions, and limitations of the approval of application or water right.

(h) If the violation is not corrected by the deadline specified by the board, an order requiring that unauthorized or illegal diversion of water cease until the violation is corrected shall be issued by the district.

(i) If the violator ceases diversion of water and then corrects the violation, the violator shall notify the district when the violation is corrected. The diversion works and the authorized place of use, as appropriate, shall be inspected by the district staff to determine whether the violation has been corrected. If the board determines that the violation has been corrected, the order prohibiting the diversion of water shall be rescinded by the board. When the owner or violator receives notice from the district that the order prohibiting the diversion of water has been rescinded, the diversion of water may recommence.

(j) If the violator performs any act described in subsection (a), any of the following actions may be taken by the board:

(1) If applicable, bring an injunctive action to enforce the order of the district;

(2) if applicable, request enforcement assistance from the chief engineer;

(3) if applicable, request that criminal proceedings be brought pursuant to K.S.A. 82a-728, and amendments thereto;

(4) if applicable, request that the county attorney or district attorney initiate injunctive remedies pursuant to K.S.A. 68-184, and amendments thereto, to prevent the occurrence of a nuisance;

(5) enter into a consent order with the violator specifying the remedial actions that shall be taken by the violator;

(6) require the installation of a water flowmeter;

(7) take any other legally permissible enforcement action; or

(8) any combination of the actions specified in paragraphs (j)(1) through (7).

(k) After the violator has been issued an order as specified in subsection (d), the violator, or anyone whose legal rights, duties, privileges, immunities, or other legal interests could be affected by the order, may appeal the order to the board. The appeal shall be filed within 15 days of the issuance of the order.

(l) The appeal petition shall state the basis for the appeal and shall be accompanied by documentation supporting the appeal.

(m) During the appeal, any relevant informa-

tion or data may be considered by the board, including relevant data and information submitted by any person whose legal rights, duties, privileges, immunities, or other legal interests could be affected by the order.

(n) After consideration of the appeal, one of the following actions shall be taken by the board:

(1) Remand the matter to the district staff with instructions for additional investigation; or

(2) notify the violator and the chief engineer of the board's final decision. The violator and all other parties shall be notified of the board's decision by certified mail.

(o)(1) Within 15 days after the service of the board's decision on the violator and any other affected party, the violator or any other affected party may file with the board a written request for reconsideration, which shall state the specific grounds for the request for reconsideration. The petition for reconsideration shall be deemed denied if not acted on by the board within 30 days.

(2) If the request for reconsideration is granted by the board, an administrative hearing shall be held by the board within 30 days of the date on which the request is filed with the board. After the hearing, the board may affirm, reverse all or part of, or modify the order of the board. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1980; amended Dec. 10, 2004.)

5-22-7. Safe yield. (a) Except as set forth in subsection (b), the approval of each application for a change in the point of diversion, term permit, and permit to appropriate water for beneficial use shall be subject to the following requirements:

(1) The sum of prior appropriations, including the proposed application, vested rights, appropriation rights, term permits and earlier priority applications and baseflow nodes, shall not exceed the allowable safe-yield amount for the area of consideration. The non-consumptive use of groundwater previously authorized by the chief engineer shall be excluded from the sum of prior appropriations.

(2) The quantity authorized on all prior permits, certificates, and vested rights, the quantity requested on prior applications, and the quantities allocated to baseflow nodes shall be used to calculate the sum of prior appropriations and baseflow allocations.

(3) All conditions and limitation clauses listed

on all prior appropriations and applications in the area of consideration shall be considered in effect.

(4) The baseflow allocation for baseflow nodes shall be calculated using the formula $Q_a = T/N$ where:

(A) Q_a is the baseflow allocation per baseflow node in acre-feet per year;

(B) T is the total baseflow allocation for a reach of a stream in acre-feet per calendar year. T is the average of the 12 calendar months' daily flow values in cubic feet per second that were equaled or exceeded 90 percent of the time during a specifically designated hydrologically significant period of record, times a factor of 724; and

(C) N is the number of baseflow nodes established on a stream or reach of a stream. Nodes are located at the upstream end of the watercourse reach and thereafter at the intersection of the channel of a watercourse and an arc of a 1,320 foot-radius circle whose center is located on the previously established baseflow node.

(5) The allowable safe-yield amount shall be calculated using the formula $S = A \times K$ where:

(A) S is the allowable safe-yield amount in acre-feet per year;

(B) A is the area of consideration; and

(C) K is an aquifer recharge value in feet. Everywhere in the district, except in McPherson county, K is equal to 0.5 feet per year. In McPherson county, K is a constant equaling 0.25 feet per year. K is calculated by multiplying the recharge percentage, which is 10 percent in McPherson county and 20 percent for the rest of the district, times the average annual precipitation of 2.5 feet per year.

(6) When evaluating an application for a change in the point of diversion, each application with a priority earlier than the priority established by the filing of the application of change shall be included in the safe-yield analysis.

(7) If the perimeter of the area under consideration intersects a group of wells authorized under prior applications, permits, certificates, or vested rights, a reasonable quantity of water shall be assigned to each well based upon the best available information.

(b) The following shall not be subject to this regulation:

(1) An application to appropriate groundwater in an area not closed by regulation or intensive groundwater use control area order by the chief engineer to new non-domestic, non-temporary

permits and term permits for five or fewer years, if all of the following conditions are met:

(A) The annual quantity of water requested in the application does not exceed 15 acre-feet;

(B) the sum of the annual quantity of water requested in the application and the total annual quantities of water authorized by prior approvals of applications allowed because of an exemption pursuant to this regulation does not exceed 45 acre-feet in a two-mile-radius circle surrounding the proposed point of diversion;

(C) the approval of the application does not authorize an additional quantity of water out of an existing authorized point of diversion with a non-domestic approval of application or water right that would then authorize a total combined annual quantity of water from that point of diversion in excess of 15 acre-feet;

(D) the application complies with the well spacing criteria in K.A.R. 5-22-2; and

(E) the application complies with all other applicable regulations in effect when the application is filed;

(2) an application for a non-consumptive use of groundwater;

(3) an application for change in point of diversion, if the diversion works were completed;

(A) 300 feet or less from the originally authorized point of diversion;

(B) within 150 feet of the location approved by the chief engineer; and

(C) a notice of completion was timely filed with the chief engineer under the original approval of application;

(4) an application requesting only an additional rate of diversion on an existing well, if the approval of the application:

(A) Is limited to the maximum annual quantity of water authorized by a prior certified, vested, or appropriation right; and

(B) contains both of the following conditions:

(i) The approved application for additional rate shall be dismissed if the prior certified, vested, or appropriation right is dismissed and terminated; and

(ii) the approved or certified maximum annual quantity of water shall be reduced in an amount equal to any subsequent reduction in the maximum annual quantity of water authorized by the prior certified, vested, or appropriation right;

(5) an application for a standby well;

(6) an application for a bank storage well only

to the extent that the bank storage well is withdrawing bank storage water; and

(7) an application for an aquifer storage and recovery well. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective May 1, 1983; amended Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

5-22-8. Change applications. (a) Except as set forth in subsection (d), the approval of each application for a change in point of diversion for a vested right, appropriation right, permit, term permit, or an application to appropriate groundwater shall be subject to the following requirements:

(1) The maximum distance a replacement well can be located from the originally authorized location shall be 2,640 feet.

(2) A replacement well located more than 300 feet from the currently authorized location shall comply with the provisions of K.A.R. 5-22-2.

(3) An application for a change in point of diversion shall be accompanied by either a completed abandoned-well or inactive-well agreement if the original well will no longer be authorized by any other vested right, appropriation right, approval of application, or term permit and the well has not been properly physically adapted for, and actually used for, domestic use. The completed agreement shall be submitted by the applicant with the application for a change in point of diversion on a form prescribed by the district.

(4) Each point of diversion described in the application shall be equipped with a water flowmeter that meets or exceeds the criteria of K.A.R. 5-22-4, K.A.R. 5-22-4a, K.A.R. 5-22-4b, and K.A.R. 5-22-4d.

(b) The approval of each application for a change in place of use or the use made of water for a vested right, appropriation right, approval of application, and term permit shall have a condition that a water flowmeter that meets or exceeds the requirements of K.A.R. 5-22-4, K.A.R. 5-22-4a, K.A.R. 5-22-4b, and K.A.R. 5-22-4d be installed on each point of diversion described in the application.

(c) Except as specified in subsection (d), each approval of application for a change in place of use for irrigation purposes shall be subject to the following requirements:

(1) If the time to perfect the water right has

expired, the water right shall be certified before the change application may be approved.

(2) The approval of the application for change in place of use shall not authorize an increase in the size of the authorized place of use in excess of the limits specified in K.A.R. 5-5-11(b).

(d) An application for change in place of use for irrigation purposes filed only for the purpose of creating an identical place of use with another water right or rights shall not be subject to subsection (c) if all of the following conditions are met:

(1) There is not a net increase in the number of authorized acres.

(2) Each water right involved in the proposed identical overlap in place of use is certified by the chief engineer before processing the change application if approval of the change application would authorize an increase in base acreage as defined in K.A.R. 5-5-11(a).

(3) The total quantity authorized by all existing water rights and all permits involved is reasonable to irrigate the land authorized after the change in place of use is approved. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Oct. 15, 1990; amended March 7, 1994; amended Nov. 12, 2004.)

5-22-9. Exceptions. Each recommendation timely submitted by the district concerning an exemption from, or waiver to, a regulation adopted by the chief engineer shall be considered by the chief engineer. An exception to these regulations may be granted by the chief engineer if the applicant demonstrates that the exception will neither impair a use under an existing right nor prejudicially affect the public interest. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Oct. 15, 1990; amended Nov. 12, 2004.)

5-22-10. Aquifer storage and recovery system: data reporting requirements. (a) Each person operating an aquifer storage and recovery system of which all or part of is within the boundaries of the district shall file an annual report with the district no later than June 1 for the previous calendar year. The report shall contain the water balance in the basin storage area and, in addition to the information required by K.A.R. 5-12-2, information about the following, as specified:

(1) Source water:

(A) The type;

(B) the quantity of water available;

(C) the quantity of water surface water and bank storage water diverted;

(D) the basin storage loss; and

(E) the chemical, physical, radiological, and biological quality for each type of source water diverted;

(2) aquifer storage:

(A) The artificial recharge techniques used;

(B) the quantity of source water recharged by each technique used;

(C) the total quantity of source water stored in the basin storage area; and

(D) the chemical, physical, radiological, and biological quality for each type of water stored;

(3) recovery of stored water:

(A) A monthly and annual summary of recharge credits withdrawn from each recovery well; and

(B) the chemical, physical, radiological, and biological quality of the water recovered; and

(4) hydrologic conditions:

(A) The quarterly index water levels;

(B) the key groundwater quality parameters;

(C) the monthly and annual precipitation quantities;

(D) the annual groundwater withdrawals from all wells except domestic wells;

(E) the annual streamflow, including baseflows and above-baseflow stage;

(F) a summary of the conjunctive use amounts; and

(G) the water supply and demand forecast for the next three years.

(b) The operator of the aquifer storage and recovery system shall furnish the district with whatever analyses, data, and other supporting documentation are necessary to understand and verify the report.

(c) The board shall review the report and submit its findings and recommendations to the chief engineer regarding the report no later than September 1 of the calendar year in which the report is required to be filed. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

5-22-12. Application processing requirements and procedures. (a) Except as provided in subsection (c), each application for any of the following shall be subject to the requirements and procedures in subsection (b):

(1) Appropriate water for beneficial use;

(2) change the point of diversion, the use made

of water, the place of use, or any combination of these; or

(3) obtain a term permit.

(b)(1) Before final action is taken on an application, a copy of the application shall be submitted by the chief engineer to the district for review and recommendation.

(2) The district staff shall conduct a review of the proposed application. The district staff's recommendation to the chief engineer shall be consistent with the provisions of the Kansas water appropriation act, the groundwater management district act, and the regulations adopted by the chief engineer pursuant to those acts.

(3) Within 15 working days after the date the chief engineer submits the application to the district for review, or any extension of time approved by the chief engineer, the district staff shall submit to the chief engineer its findings and recommendation for approval, denial, or modification of the application and shall specify the basis for the recommendation. At the same time the district submits its recommendation to the chief engineer, the recommendation shall also be served on the applicant and any other parties to the proceedings.

(4) A district staff's findings and recommendation concerning an application may be appealed to the board by the applicant or anyone whose legal rights, duties, privileges, immunities, or other legal interests may be affected by approval, denial, or modification of the application.

(5) The petition for review by the board shall be filed by the party appealing the recommendation with the board within 30 days after the date of the letter sending the findings and recommendations by the staff of the district to the applicant or other party. The petition shall state the basis for the appeal and shall be accompanied by documentation supporting the appeal.

(6) During the appeal, any relevant information or data may be considered by the board, including relevant data and information submitted by a person whose legal rights, duties, privileges, immunities, or other legal interests may be affected by approval, denial, or modification of the application.

(7) After consideration of the appeal, one of the following actions shall be taken by the board:

(A) Remanding the matter to the district staff with instructions for additional investigation; or

(B) notifying the applicant and the chief engineer of the board's final recommendation. The ap-

plicant and all other parties shall be notified of the board's decision by certified mail.

(8) Within 15 days after the service of the board's decision on the applicant and any other party, the applicant or any other party may file with the board a written request for reconsideration, which shall state the specific grounds for the request for reconsideration. The petition for reconsideration shall be deemed denied if not acted on by the board within 30 days.

(c) The following shall not be subject to this regulation:

- (1) The domestic use of water;
- (2) an application for a temporary permit; and
- (3) an application to change the point of diversion if both of the following conditions are met:

(A) The point of diversion is proposed to be moved less than 300 feet; and

(B) the point of diversion is not a battery. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective Jan. 10, 2003.)

5-22-13. Potential net evaporation. (a) The map titled "annual potential net evaporation in inches for Equus Beds groundwater management district no. 2 (annual average evaporation minus annual normal precipitation)," prepared by the district and dated June 11, 2002, is hereby adopted by reference for the purpose of determining potential net evaporation from a free-water surface within the district.

(b) The values on the map shall be used in all situations in which the determination of potential net evaporation from a free-water surface is necessary, including the following:

(1) Computing the annual amount of evaporation that will be caused by exposing the groundwater table;

(2) calculating the quantity of surface water that is reasonably expected to be replaced with groundwater pumped under an approval of application or water right;

(3) calculating the average annual evaporation from groundwater that will be used to determine annual water use; and

(4) determining the maximum annual quantity of water that is perfected pursuant to K.S.A. 82a-714, and amendments thereto.

(c) The values shown on the map shall be used unless the applicant provides, or the chief engineer or the district has available, better or more site-specific data concerning potential net evapo-

ration. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

5-22-14. Maximum reasonable quantity for beneficial use. (a) The maximum annual quantity of water deemed reasonable for irrigation use shall be the following:

(1) 1.3 acre-feet per acre in Harvey, McPherson, and Sedgwick counties; and

(2) 1.4 acre-feet per acre in Reno county.

(b) The following quantities shall be used to determine the maximum annual quantity of water deemed reasonable for nondomestic livestock and poultry use:

Livestock or poultry	Drinking water (gallons per day)	Units
Cattle, beef	15	per head
Cattle, dairy	35	per head
Swine		per head
finishing	5	
nursery	1	
sow and litter	8	
gestating sow	6	
Sheep	2	per head
Horses	12	per head
Poultry		
chickens	9	100 layers
turkeys	30	100 turkeys
Calves (750 pounds or less)	10	per head
Goats	9	per head

(c) The maximum reasonable quantity of water that may be approved for nondomestic livestock and poultry use for applications approved on or after the effective date of this regulation shall be limited as specified in subsection (b), unless the applicant demonstrates with adequate supporting information that the quantity of water and rate of diversion requested meet the following conditions:

(1) Are reasonable for the intended use;

(2) are not wasteful; and

(3) will not otherwise prejudicially and unreasonably affect the public interest.

(d) For all other types of nondomestic livestock, poultry, birds, and animals, the maximum quantity of water approved for beneficial use shall be reasonable. The applicant shall justify the quantity of water requested with information on peer water use, the historical measured usage, a professional

recommendation, or any other relevant information.

(e) Each applicant who seeks to appropriate water for industrial use shall submit information to demonstrate that the annual quantity of water requested is reasonable for that particular type of industrial use. The information submitted shall include the quantity of water reasonable for that type of industrial use based on current industry standards and a use of technology that is economically and technically feasible for that industry at that location.

(f) Unless the applicant demonstrates a projected deviation from actual population trends, a reasonable annual quantity of water for municipal use shall not exceed the lessor of either of the following:

- (1) 200 gallons per capita per day; or
- (2) 110 percent of the last three years' average per capita per day usage, excluding industries that use over 200,000 gallons per year, times 365 days per year, times the projected population for the twentieth year after the application is filed, plus reasonable projected water use for industries that use over 200,000 gallons per year. Population projections shall be made using one of the following:

(A) Accepted statistical methods using historic population trends for the applicant; or

(B) data from the U.S. census bureau, Kansas water office population projections, or the Kansas census bureau. Projected deviations from historic population trends shall be justified by the applicant.

(g) The maximum annual quantity of water deemed reasonable to be provided from a well to a pond, lake, or reservoir that does not expose the current or historical water table shall be calculated using the formula $Q_c = [(E+S)/12] \times A_{sw} + F$ where:

- (1) Q_c is the maximum quantity of water use in acre-feet;
 - (2) E is the potential net evaporation in inches per year;
 - (3) S is the seepage loss based on soil and subsoil in inches per year;
 - (4) A_{sw} is the surface area of the pond in acres as measured at the elevation of the lowest uncontrolled spillway; and
 - (5) F is the quantity of water in acre-feet necessary to fill the pond initially.
- (h) The maximum annual quantity of water deemed reasonable to replace the evaporation

from a groundwater pit shall be calculated using the formula $Q_c = (E/12) \times A_{wt}$ where:

- (1) Q_c is the maximum annual quantity of evaporation of groundwater from the pit in acre-feet;
- (2) E is the potential net evaporation in inches per year; and
- (3) A_{wt} is the area of the water table exposed in the groundwater pit expressed in acres. (Authorized by and implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

5-22-15. Limitations on the use of fresh groundwater. (a) Fresh groundwater shall not be used for any of the following purposes, unless the applicant demonstrates before approval of the application that the use of other waters is not technologically or economically feasible:

- (1) The enhanced recovery of oil or gas;
 - (2) solution mining;
 - (3) the construction of storage caverns in subsurface salt deposits;
 - (4) the displacement and extraction of hydrocarbons from subsurface storage;
 - (5) any use that is not a beneficial use, as defined in K.A.R. 5-1-1; and
 - (6) any use that is not in the public interest.
- (b) "Other waters" shall include the following:
- (1) Water having a chloride content of more than 500 milligrams per liter (mg/l);
 - (2) water that is otherwise contaminated so that it is not drinkable;
 - (3) renewable surface water; and
 - (4) water that is being reclaimed, recycled, or reused. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a, K.S.A. 2003 Supp. 82a-711, and K.S.A. 2003 Supp. 82a-1028; effective Dec. 10, 2004.)

5-22-17. Bank storage wells. (a) Each applicant for one or more bank storage wells shall demonstrate all of the following:

- (1) The hydraulic connection from the streambed and banks to each bank storage well screen is sufficient to transmit bank storage water from the bed and banks of the stream to each bank storage well screen at a rate sufficient to sustain the authorized rate of diversion of the well or wells.
- (2) Within seven days after the pumping of all bank storage wells has ceased, the water level in each bank storage well, or a monitoring well located within 100 feet of that bank storage well, will recover to an elevation equal to or greater

than the water level elevation immediately before the bank storage well began to pump, adjusted for any regional groundwater level changes not caused by the pumping of the bank storage well.

(3) The naturally occurring and artificially induced rate of infiltration from the bed and banks of the stream when bank storage is occurring will be sufficient to meet the following conditions:

(A) Equal or exceed the authorized rate of diversion of all of the bank storage wells;

(B) prevent impairment caused by all bank storage wells; and

(C) prevent groundwater mining caused by all bank storage wells.

(b) If an application for a bank storage well is approved by the chief engineer, the applicant shall install one or more water-level measurement tubes at locations that will allow adequate monitoring of groundwater quality and groundwater levels within the area where the annual cone of depression of the bank storage well or wells could be greater than 0.5 feet. Each water-level measurement tube shall be constructed and maintained in accordance with K.A.R. 5-6-13. (Authorized by K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2003 Supp. 82a-1028; effective Nov. 12, 2004.)

Article 23.—SOUTHWEST KANSAS GROUNDWATER MANAGEMENT DISTRICT NO. 3

5-23-1. Definitions. As used in these regulations, by the southwest Kansas groundwater management district in the implementation of the groundwater management district act, and by the division of water resources in the administration of the Kansas water appropriation act and the groundwater management district act, unless the context clearly requires otherwise, the following words and phrases shall have the meanings ascribed to them in this regulation. (a) “Confined aquifer” means an aquifer overlain and underlain by impermeable layers. Groundwater in a confined aquifer is normally under pressure greater than atmospheric pressure.

(b) “High plains aquifer” means the aquifer comprised of the undifferentiated Pleistocene-age deposits, Quaternary loess, alluvium, dune sand, the Ogallala formation, and deeper aquifers that are in vertical or horizontal hydraulic contact with the Ogallala formation.

(c) “Hydraulic contact” means the absence of an impermeable layer between aquifers.

(d) “Theis analysis” means the Theis non-equilibrium equation analysis described in pp. 108-113 in “ground water and wells: a reference book for the water-well industry,” published in 1966 by Edward E. Johnson, Inc. The pages specified in this subsection are hereby adopted by reference.

(e) “Unconfined aquifer” means an aquifer in which the groundwater is exposed to the atmosphere through openings in the overlying materials. The upper surface of an unconfined aquifer is the water table.

(f) “Well” means any artificial excavation that is drilled, cored, bored, washed, driven, dug, or otherwise constructed when the intended use of the excavation is for the acquisition, diversion, or artificial recharge of groundwater. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028(o); implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1981; amended May 1, 1985; amended Sept. 22, 2000; amended Feb. 27, 2004.)

5-23-2. Tailwater control and waste. No water user shall allow waste of water. If the water is re-used, the user shall apply the water consistent with the approved application to appropriate water for beneficial use, vested right or appropriation right. All water users shall construct and operate the water distribution systems in a manner as to prevent the waste of water, and shall do everything necessary and proper to preserve the quality of the groundwater resources within the district. (Authorized by K.S.A. 1980 Supp. 82a-1028(o); implementing K.S.A. 1980 Supp. 82a-1028(n); effective May 1, 1981.)

5-23-3. Minimum well spacing requirements: high plains aquifer. (a) (1) The minimum horizontal distance between each proposed nontemporary, nondomestic well and all other senior nontemporary, nondomestic wells diverting water from the high plains aquifer shall be determined from the following schedule.

Quantity per well (acre-feet per year)	Minimum well spacing requirement
15 or less	660 feet
16 - 200	1,300 feet
201 - 300	1,600 feet
301 - 400	1,900 feet
401 - 500	2,100 feet
more than 500	2,300 feet

(2) The minimum well spacing requirement

shall be based on the maximum annual quantity of water. The required well spacing shall be the greater of either of the following:

(A) The minimum spacing for the total authorized and requested quantity of water for the proposed well; or

(B) the total authorized and requested annual quantity of water for the nontemporary, non-domestic well against which the spacing is being measured that is senior to the date on which the application was filed. If the quantity of water applied for includes a fraction of an acre-foot, the quantity of water shall be rounded down to the next whole number of acre-feet for the purpose of applying the table in this subsection.

(b) The location of a well or wells on an application for approval to change the point of diversion under an existing water right shall be no more than 2,640 feet from the currently authorized and completed point of diversion.

(c) A well shall be exempt from the minimum well spacing requirements of this regulation if the well meets either of the following conditions:

(1) The well is being replaced within 300 feet of the currently authorized point of diversion.

(2) The proposed replacement well location improves the spacing to all other wells for which the spacing requirement was not met on the date on which the application for a change in point of diversion was filed and continues to meet requirements for spacing to all wells for which the spacing requirement was met at the time the application for change in point of diversion was filed.

(d) No application for approval to change the point of diversion under an approved application for which the original well has not been drilled shall be approved if the location of the proposed point of diversion decreases the distance from the approved location to any other existing wells to less than the spacing requirement for new applications.

(e) Each nondomestic, nontemporary well shall be located a minimum of 660 feet from all domestic wells with a priority earlier than the date on which the change application was filed, unless all of the following conditions are met:

(1) The domestic well is owned by the applicant.

(2) The applicant signs a written request to waive the requirements for spacing to the domestic well.

(3) The applicant submits information documenting the location and depth of the domestic

well and any other information necessary for the chief engineer to determine whether the domestic well is likely to be impaired.

(4) A Theis analysis or other hydraulic analysis shows that the domestic well is not likely to be impaired by the proposed well.

(f) In the case of a battery of wells, as defined in K.A.R. 5-1-1, the minimum horizontal distance shall be measured from the geographic center of the wells comprising the battery.

(g) The total annual quantity per well shall be the sum of all of the quantities authorized or requested by any water rights, permits, or applications requesting or authorizing that well as a point of diversion. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, K.S.A. 2002 Supp. 82a-708b, and K.S.A. 82a-1028; effective May 1, 1981; amended May 1, 1985; amended Aug. 28, 1989; amended Sept. 30, 1991; amended Sept. 22, 2000; amended Feb. 27, 2004.)

5-23-3a. Minimum well spacing requirements: confined aquifers. (a)(1) The minimum horizontal distance between each proposed nontemporary, nondomestic well and all other senior nontemporary, nondomestic wells diverting water from a confined aquifer shall be determined from the following schedule.

Quantity per well (acre-feet per year)	Minimum well spacing requirement	Required distance from hydraulic contact point
15 or less	660 feet	2,640 feet
16 to 25	2,300 feet	1 mile
26 to 100	5,280 feet	2 miles
More than 100	10,560 feet	5 miles

(2) The minimum well spacing requirement shall be based on the authorized maximum annual quantity of water. The well spacing requirement shall be the greater of either of the following:

(A) The minimum spacing for the total authorized and requested annual quantity of water of the proposed well; or

(B) the total authorized and requested quantity of water for nontemporary, nondomestic well against which spacing is being measured that is senior to the date on which the application was filed.

The total annual quantity of water per well shall be the sum of all of the quantities authorized or requested by any water rights, approvals of appli-

cations, or applications requesting or authorizing that well as a point of diversion.

If the quantity of water applied for includes a fraction of an acre-foot, the quantity of water shall be rounded down to the next whole number of acre-feet for the purpose of applying the table in this subsection.

(b) In the case of a battery of wells, as defined in K.A.R. 5-1-1, the minimum horizontal distance shall be measured from the geographic center of the wells comprising the battery.

(c) A well penetrating both a confined and unconfined aquifer shall be constructed to prevent the vertical migration of water between the aquifers. A well diverting water from the Dakota aquifer system shall be constructed to prevent the vertical migration of water between the Dakota aquifer system and all other freshwater aquifers.

(d) The location of a well or wells on an application for approval to change the point of diversion under an existing water right shall be no more than 2,640 feet from the currently authorized and completed point of diversion.

(e) A well shall be exempt from the minimum well spacing requirements of this regulation if the well meets either of the following conditions:

(1) The well is being replaced within 300 feet of the currently authorized point of diversion.

(2) The proposed replacement well location improves the spacing to all other wells for which the spacing requirement was not met on the date on which the application for a change in point of diversion was filed and continues to meet requirements for spacing to all wells for which the spacing requirement was met at the time the application for change in point of diversion was filed.

(f) No application for approval to change the point of diversion under an approval of application for which the original well has not been drilled shall be approved if the location of the proposed point of diversion decreases the distance from the approved location to any other existing wells to less than the spacing requirements for a new application.

(g) Each nondomestic, nontemporary well shall be located a minimum of 1,320 feet from all domestic wells in the same or a hydraulically connected aquifer with a priority earlier than the date on which the change application was filed, unless all of the following conditions are met:

(1) The domestic well is owned by the applicant.

(2) The applicant signs a written request to

waive the requirements for spacing to the domestic well.

(3) The applicant submits information documenting the location and depth of the domestic well and any other information necessary for the chief engineer to determine whether the domestic well is likely to be impaired.

(4) A Theis analysis or other hydraulic analysis shows that the domestic well is not likely to be impaired by the proposed well.

(h) The minimum horizontal distance between a nontemporary, nondomestic well withdrawing water from a confined aquifer and a well withdrawing water from an unconfined aquifer shall be 660 feet. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, K.S.A. 2002 Supp. 82a-708b, and K.S.A. 2002 Supp. 82a-1028; effective Sept. 22, 2000; amended Feb. 27, 2004.)

5-23-4. Safe yield: high plains aquifer.

(a) Except as set forth in subsection (b), the approval of all applications for a permit to appropriate water from the high plains aquifer, and the approval of all applications for a change in the point of diversion if the diversion works have not been completed under the original approved application, shall be processed in accordance with K.A.R. 5-3-9, K.A.R. 5-3-10, and K.A.R. 5-3-11. For the purpose of applying K.A.R. 5-3-11 (d)(3) within the boundaries of the district, the percentages of the calculated recharge that shall be considered to be available for appropriation shall be determined using the following table:

Percent of Calculated Recharge Available for Appropriation

	River Basin
(A) 75 %	Arkansas
(B) 75 %	Cimarron River
(C) 75 %	Crooked Creek
(D) 75 %	North Fork Cimarron River

(b) This regulation shall not apply to the following:

(1) Wells for domestic use;

(2) wells authorized by temporary permits;

(3) wells authorized by term permits of fewer than five years;

(4) an application to appropriate 15 acre-feet of water or less if all of the following conditions are met:

(A) The safe yield has been exceeded, but the

sum of the annual quantity requested by the proposed appropriation and the total quantities authorized by prior permits because of this exemption does not exceed 15 acre-feet in a circle with a radius of $\frac{1}{2}$ mile surrounding the proposed point of diversion.

(B) Well spacing criteria have been met.

(C) Approval of the application will not authorize an additional quantity of water out of an existing well authorized by a nondomestic approval of application or water right, which would result in a total combined annual quantity of water authorized from that well in excess of 15 acre-feet.

(D) All other criteria for processing a new application have been met.

(c) Each application filed to request a well within the area described in subsection (e) shall include a driller's log, an electric log, and a laboratory analysis from a state-certified laboratory of the chloride concentrations in samples taken from whatever depths are necessary to determine the vertical location where the chloride concentrations exceed 250 milligrams per liter (mg/l). The samples shall be taken from a well located within a 300-foot radius of the proposed well. A state-certified laboratory analysis shall be used to determine the vertical location of the chloride concentrations exceeding 250 mg/l.

(d) Each well constructed in the area described in subsection (e) shall be constructed in a manner that prevents the movement of water containing 250 mg/l of chlorides beyond its naturally occurring condition.

(e) The level of chlorides may exceed 250 mg/l in the following areas:

(1) The west $\frac{1}{2}$ of townships 33, 34, and 35 south, range 28 west in Meade County, Kansas;

(2) the east $\frac{1}{2}$ of township 33 south, range 29 west in Meade County, Kansas;

(3) all of townships 34 and 35 south, ranges 29 and 30 west in Meade County, Kansas; and

(4) all of townships 34 and 35 south, ranges 31 and 32 west and the east $\frac{1}{2}$ of townships 34 and 35 south, range 33 west in Seward County, Kansas. (Authorized by K.S.A. 82a-706a and 82a-1028; implementing K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1981; amended May 1, 1986; amended Aug. 28, 1989; amended Sept. 22, 2000; amended Nov. 21, 2003.)

5-23-4a. Criteria for closing townships to new appropriations. (a) Entire townships

shall be closed to further appropriation of water for beneficial use from the high plains aquifer if at least one of the following conditions exists:

(1) The entire township is fully appropriated.

(A) A township shall be considered to be fully appropriated if the aquifer within the township would be depleted by 40 percent or more in 25 years if current vested rights and appropriations are fully exercised and all limitation clauses listed on permits to appropriate water and certificates are in force.

(B) Aquifer depletion shall be calculated using the allowable annual appropriation formula described in subsection (b) with the area of consideration equal to the number of acres within sections of land containing saturated thickness within the township.

(2) The average saturated thickness of the aquifer within the township is 50 feet or less, as set forth in K.A.R. 5-23-15.

(3) The aquifer has been depleted by 20 percent or more since 1950. Depletion since 1950 shall be determined from maps or data, or both, recommended by the board and adopted by the chief engineer by regulation.

(4) Groundwater pumping has lowered the water level of the high plains aquifer, which has diminished the baseflow from the aquifer to the stream and impaired senior domestic surface water rights and other senior surface water rights.

(5) Groundwater pumping in an area has lowered the water level of the freshwater to the point that the issuance of additional approvals of applications will induce water in excess of 250 milligrams per liter chlorides to mix with overlying freshwater, causing contamination of the overlying freshwater.

(b) Except for the types of wells listed in subsection (c), the proposed appropriation, when added to the vested rights, prior appropriation rights, and earlier priority applications, shall not exceed, in 25 years, a calculated rate of depletion of 40 percent of the saturated thickness underlying the area of consideration. For the purpose of analysis, all vested rights, appropriation rights, approvals of applications, and prior unapproved applications shall be considered to be fully exercised, and all limitation clauses on approvals of application and certificates shall be considered to be in force. The allowable annual appropriation shall be calculated using the following formula:

$$\text{Allowable Aquifer Yield} = \frac{0.40\text{AMS}}{25} + \frac{\text{AR}}{12}$$

Allowable aquifer yield = the amount of water, measured in acre-feet, available annually for appropriation from a proposed point of diversion (well).

A = the “area of consideration” shall be equal to the number of acres within sections containing saturated thickness within the township and within the district.

M = the number of feet of average saturated thickness of the high plains aquifer within the township as set forth in K.A.R. 5-23-15.

S = the storage coefficient or a specific yield of 15 percent.

R = average annual recharge and return flow, which shall be one inch per year.

(c) The calculation specified in subsection (b) shall not include the following types of wells:

- (1) Wells for domestic use;
- (2) wells authorized by temporary permits; and
- (3) wells authorized by term permits of fewer than five years. (Authorized by K.S.A. 82a-706a and 82a-1028(o); implementing K.S.A. 82a-1028(n); effective Sept. 30, 1991; amended Sept. 22, 2000; amended Nov. 21, 2003.)

5-23-4b. Township closures. (a) The following townships have been determined to meet the criteria in K.A.R. 5-23-4a for closing a township to new appropriations of water from the high plains aquifer; therefore, no new appropriations of water shall be allowed from the high plains aquifer in the following townships, except as described in subsection (b):

County	Township	Range	County	Township	Range
Finney	21	30	Finney	24	33
Finney	21	31	Finney	24	34
Finney	21	32	Finney	25	31
Finney	21	33	Finney	25	32
Finney	21	34	Finney	25	33
Finney	22	30	Finney	25	34
Finney	22	31	Finney	26	31
Finney	22	32	Finney	26	32
Finney	22	33	Finney	26	33
Finney	22	34	Finney	26	34
Finney	23	27	Ford	25	21
Finney	23	28	Ford	25	22
Finney	23	29	Ford	25	23
Finney	23	30	Ford	25	24
Finney	23	31	Ford	25	25
Finney	23	32	Ford	25	26
Finney	23	33	Ford	26	21
Finney	23	34	Ford	26	22
Finney	24	31	Ford	26	23
Finney	24	32	Ford	26	24

County	Township	Range	County	Township	Range
Ford	26	25	Hamilton	26	40
Ford	26	26	Hamilton	26	41
Ford	27	21	Hamilton	26	42
Ford	27	22	Hamilton	26	43
Ford	27	23	Haskell	27	31
Ford	27	24	Haskell	27	32
Ford	27	25	Haskell	27	33
Ford	27	26	Haskell	27	34
Ford	28	21	Haskell	28	31
Ford	28	22	Haskell	28	32
Ford	28	23	Haskell	28	33
Ford	28	24	Haskell	28	34
Ford	28	25	Haskell	29	31
Ford	28	26	Haskell	29	32
Ford	29	21	Haskell	29	33
Ford	29	22	Haskell	29	34
Ford	29	23	Haskell	30	31
Ford	29	24	Haskell	30	32
Ford	29	25	Haskell	30	33
Ford	29	26	Haskell	30	34
Grant	27	35	Kearny	22	35
Grant	27	36	Kearny	22	36
Grant	27	37	Kearny	22	37
Grant	27	38	Kearny	22	38
Grant	28	35	Kearny	23	35
Grant	28	36	Kearny	23	36
Grant	28	37	Kearny	23	37
Grant	28	38	Kearny	23	38
Grant	29	35	Kearny	24	35
Grant	29	36	Kearny	24	36
Grant	29	37	Kearny	24	37
Grant	29	38	Kearny	24	38
Grant	30	35	Kearny	25	35
Grant	30	36	Kearny	25	36
Grant	30	37	Kearny	25	37
Grant	30	38	Kearny	25	38
Gray	24	27	Kearny	26	35
Gray	24	28	Kearny	26	36
Gray	24	29	Kearny	26	37
Gray	24	30	Kearny	26	38
Gray	25	27	Meade	30	26
Gray	25	28	Meade	30	27
Gray	25	29	Meade	30	28
Gray	25	30	Meade	30	29
Gray	26	27	Meade	30	30
Gray	26	28	Meade	31	26
Gray	26	29	Meade	31	27
Gray	26	30	Meade	31	28
Gray	27	27	Meade	31	29
Gray	27	28	Meade	31	30
Gray	27	29	Meade	32	28
Gray	27	30	Meade	32	29
Gray	28	27	Meade	32	30
Gray	28	28	Meade	33	28
Gray	28	29	Meade	33	29
Gray	28	30	Meade	33	30
Gray	29	27	Meade	34	28
Gray	29	28	Meade	34	29
Gray	29	29	Meade	34	30
Gray	29	30	Meade	35	28
Hamilton	25	42	Meade	35	29
Hamilton	25	43	Meade	35	30
Hamilton	26	39	Morton	31	39

County	Township	Range	County	Township	Range
Morton	31	40	Stanton	27	40
Morton	31	41	Stanton	27	41
Morton	31	42	Stanton	27	42
Morton	31	43	Stanton	27	43
Morton	32	39	Stanton	28	39
Morton	32	40	Stanton	28	40
Morton	32	41	Stanton	28	41
Morton	32	42	Stanton	28	42
Morton	32	43	Stanton	28	43
Morton	33	41	Stanton	29	39
Morton	33	42	Stanton	29	40
Morton	33	43	Stanton	29	41
Morton	34	42	Stanton	29	42
Morton	34	43	Stanton	29	43
Morton	35	39	Stanton	30	39
Morton	35	40	Stanton	30	40
Morton	35	41	Stanton	30	41
Morton	35	42	Stanton	30	42
Morton	35	43	Stanton	30	43
Seward	31	31	Stevens	31	35
Seward	31	32	Stevens	31	36
Seward	31	33	Stevens	31	37
Seward	31	34	Stevens	31	38
Seward	32	31	Stevens	31	39
Seward	32	32	Stevens	32	35
Seward	32	33	Stevens	32	36
Seward	32	34	Stevens	32	39
Seward	34	31	Stevens	33	35
Seward	34	32	Stevens	33	38
Seward	34	33	Stevens	34	35
Seward	35	31	Stevens	34	38
Seward	35	32	Stevens	35	38
Seward	35	33	Stevens	35	39
Stanton	27	39			

(b) The closure of the townships to new appropriations of water from the high plains aquifer as listed in subsection (a) shall not apply to the following:

- (1) Wells for domestic use;
- (2) wells authorized by temporary permits;
- (3) wells authorized by term permits of fewer than five years; and
- (4) wells authorized by an application to appropriate 15 acre-feet of water or less if the following conditions are met:

(A) The allowable aquifer yield has been exceeded, but the sum of the annual quantity requested by the proposed appropriation and the total quantities authorized by prior permits because of this exemption does not exceed 15 acre-feet in a radius of $\frac{1}{2}$ mile surrounding the proposed point of diversion.

(B) Well spacing criteria have been met.

(C) Approval of the application will not authorize an additional quantity of water out of an existing well authorized by a nondomestic approval of application or water right that would result in a

total combined annual quantity of water authorized from that well in excess of 15 acre-feet.

(D) All other criteria for processing a new application have been met. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Sept. 22, 2000; amended Nov. 21, 2003.)

5-23-5. (Authorized by K.S.A. 1980 Supp. 82a-1028(o); implementing K.S.A. 1980 Supp. 82a-1028(n); effective May 1, 1981; revoked Nov. 21, 2003.)

5-23-6. Water-measuring devices. The diversion works for each nontemporary, non-domestic well located within the boundaries of the district shall be equipped with a water flowmeter that meets or exceeds the specifications in K.A.R. 5-1-4 through 5-1-12.

(a) The owner shall perform the following:

(1) Ensure that the water flowmeter is installed according to specifications in K.A.R. 5-1-4 through 5-1-12;

(2) maintain the water flowmeter in proper working condition whenever the diversion of water for nondomestic use can reasonably be expected to occur; and

(3) promptly initiate action to repair or replace any water flowmeter that is out of compliance, and correct any problems with the installation of a water flowmeter.

(b) The owner shall notify the district, on a form prescribed by the district, within 30 days after any of the following:

(1) A new water flowmeter is installed.

(2) A water flowmeter is repaired and re-installed.

(3) A water flowmeter is repaired without removing the water flowmeter.

(4) An improper water flowmeter installation has been corrected.

(c) An extension of time to install a water flowmeter may be granted by the district for a reasonable period of time if just cause is shown to the district. Each appeal shall be filed with the board at least 10 days before a regularly scheduled board meeting. Just cause may include any of the following:

(1) A contract has been signed by the owner and the seller to sell or install the water flowmeter, but the seller cannot complete the sale or installation before diversion of water will take place.

(2) Weather conditions prevent the water flow-

meter from being installed before the diversion of water.

(3) Legal proceedings prevent the owner from installing the water flowmeter.

(4) The supply of natural gas to power the well has been cut off by the seller of the natural gas for reasons beyond the control of the owner of the water right.

(d) A water flowmeter shall not be required to be installed if any of the following criteria is met:

(1) A well is authorized to divert 15 acre-feet or less per calendar year.

(2) Two or more wells are authorized by the same water right or approval of application with one authorized annual quantity of water for all the wells, and all of the water diverted by all of the wells is measured by a single water flowmeter prior to its application to beneficial use.

(3) The well is enrolled in a multiyear federal conservation program or the water rights conservation program pursuant to K.A.R. 5-7-4.

(4) The well is registered as inactive with the Kansas department of health and environment.

(5) An affidavit is filed by the owner with the district stating that the well is not, and will not be, operated until a water flowmeter meeting the specifications in K.A.R. 5-1-4 through 5-1-12 is properly installed. Thirty days before operating the well, the owner shall file a notice with the district indicating that a water flowmeter has been installed and indicate when the owner proposes to begin the diversion of water. (Authorized by and implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1981; amended May 1, 1985; amended Jan. 10, 2003.)

5-23-7 and 5-23-8. (Authorized by K.S.A. 1980 Supp. 82a-1028(o); implementing K.S.A. 1980 Supp. 82a-1028(n); effective May 1, 1981; revoked May 1, 1985.)

5-23-9. (Authorized by K.S.A. 1980 Supp. 82a-1028(o); implementing K.S.A. 1980 Supp. 82a-1028(n); effective May 1, 1981; revoked Aug. 28, 1989.)

5-23-10. Reserved.

5-23-11. Procedures for non-compliance with rules and regulations. The district, its board or manager, any eligible voter within the district, or any person residing within the district that is at least eighteen (18) years of age, may file a written complaint with the district alleging a violation of these rules and regulations, the man-

agement program, the groundwater management district act (K.S.A. 82a-1020 *et seq.*), or the water appropriation act (K.S.A. 82a-701 *et seq.*). The written complaint shall be filed at the district office.

Within thirty (30) days following the filing of the complaint, a representative of the district designated by the board shall investigate the complaint. If the representative of the district finds that a violation has existed or presently exists, the representative shall issue a written directive to the violator stating the nature of the violation and directing the violator to come into compliance with these rules and regulations.

If the violator fails to comply with the directive, the district may: (1) Seek to enjoin the violator's use of water by suitable action in district court until such time as the violator complies; or

(2) Seek the assistance of the chief engineer and the attorney general of the state of Kansas to enjoin the violator's use of water until such time as the violator complies. (Authorized by K.S.A. 1980 Supp. 82a-1028(o); implementing K.S.A. 1980 Supp. 82a-1028(n); effective May 1, 1981.)

5-23-14. Dakota aquifer system. All evaluations in the southwest Kansas groundwater management district no. 3 involving a determination of the extent of the confined and unconfined Dakota aquifer system shall use the information shown in the Kansas geological survey open file report number 98-37, released August 1998, which is hereby adopted by reference, unless the applicant or the district provides, or the chief engineer has available, better or more site-specific data concerning the extent of the confined and unconfined Dakota aquifer system. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-709, K.S.A. 1999 Supp. 82a-711, and K.S.A. 82a-1028(n); effective Sept. 22, 2000.)

5-23-15. Saturated thickness of the high plains aquifer. All evaluations in the southwest Kansas groundwater management district no. 3 involving a determination of the saturated thickness of the high plains aquifer shall use the information shown in the Kansas geological survey open file report number 98-52, plate B, released February 1999, which is hereby adopted by reference, unless the applicant or the district provides, or the chief engineer has available, better or more site-specific data concerning the saturated thickness of the high plains aquifer. (Authorized by K.S.A.

82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 1999 Supp. 82a-711 and K.S.A. 82a-1028(n); effective Sept. 22, 2000.)

**Article 24.—NORTHWEST KANSAS
GROUNDWATER MANAGEMENT
DISTRICT NO. 4**

5-24-1. Definitions. As used in these regulations for the northwest Kansas groundwater management district no. 4, the following words and phrases shall have the following meanings. (a) “Area of consideration” means the two-mile-radius circle whose center is the location of the proposed point of diversion. The area of consideration equals 8,042 acres minus any area of the circle that is outside the state of Kansas.

(b) “Base acreage” has the meaning specified in K.A.R. 5-5-11(a).

(c) “Battery of wells” has the meaning specified in K.A.R. 5-1-1.

(d) “Board” means the board of directors constituting the governing body of the northwest Kansas groundwater management district no. 4.

(e) “District” means the northwest Kansas groundwater management district no. 4.

(f) “Tailwater” means that portion of the applied irrigation water that becomes runoff from the authorized place of use.

(g) “Theis analysis” means the Theis non-equilibrium equation analysis described in pp. 108-113 in “ground water and wells: a reference book for the water-well industry,” published by Edward E. Johnson, Inc., Saint Paul, Minnesota, in 1966. The pages specified in this subsection are hereby adopted by reference.

(h) “Usable water” means water containing not more than 10,000 milligrams per liter of total dissolved solids.

(i) “Waste of water” has the meaning specified in K.A.R. 5-1-1.

(j) “Well” means any excavation that is drilled, cored, bored, washed, driven, dug, or otherwise constructed if the intended use of the excavation is for the acquisition, diversion, or artificial recharge of groundwater. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended May 1, 1985; amended Jan. 30, 2004.)

5-24-2. Allowable withdrawals. (a) Except as set forth in subsection (b) below, each application for an approval of application and each

application for a change in the point of diversion shall be subject to the following requirements:

(1) The sum of the annual quantities of water of the proposed appropriation, the vested rights, prior appropriation rights, and earlier priority applications with a point of diversion authorized or proposed within the area of consideration that withdraw water from the same source of supply as the proposed point of diversion, as a hydraulically connected source of supply, shall not exceed the calculated quantity of annual recharge received by the aquifer underlying the area of consideration. The quantity authorized on all prior permits, certificates, and vested rights, and the quantity requested on prior applications shall be used to calculate the sum of prior appropriations.

(2) All limitation clauses listed on permits and certificates shall be considered to be in force.

(3) In the case of an application for change in the point of diversion, all applications with a priority earlier than the priority established by the filing of the application for change shall be included in the analysis.

(4) The allowable annual appropriation shall be calculated using the formula $Q = AR/12$, in which the following values are used:

(A) Q is the allowable annual appropriation in acre-feet per year.

(B) A is the area of consideration.

(C) R is the average annual recharge in inches per year.

(5) The value of .5 inch per year shall be used for recharge, including natural recharge and return flow from irrigation.

(6) If a portion of the area of consideration is outside the district boundary, the evaluation shall be conducted as though the entire area of consideration were within the district boundary. If the perimeter of the area of consideration intersects a group of wells authorized under prior applications, permits, certificates, or vested rights, a reasonable quantity of water shall be assigned to each well based upon the best available information.

(b) The following types of applications shall not be subject to this regulation:

(1) A nondomestic application for an approval of application if the proposed point of diversion meets the following criteria:

(A) Is to be located in an alluvial aquifer not closed to new appropriations, except for domestic use, temporary permits, and term permits for five or fewer years;

(B) meets the well spacing requirements of K.A.R. 5-24-3; and

(C) meets the safe yield requirements of K.A.R. 5-3-9, K.A.R. 5-3-10, and K.A.R. 5-3-11;

(2) a nondomestic application to appropriate water from one or more of the following sources of supply:

(A) Niobrara;

(B) Carlile;

(C) Greenhorn;

(D) Dakota;

(E) Kiowa; or

(F) the Cheyenne formations if both of the following conditions are met:

(i) The well spacing requirements of K.A.R. 5-24-3 are met; and

(ii) the proposed point of diversion is located in an area where there is a natural hydraulic connection between all of the formations from which the applicant proposes to divert water;

(3) an application for a permit to appropriate water for domestic use;

(4) an application for a term permit for five years or less;

(5) an application for a temporary permit;

(6) an application for change in point of diversion if either of the following conditions is met:

(A) The authorized well has been drilled, cased, and test-pumped; or

(B) the authorized diversion works have been completed and a notice of completion was timely filed with the chief engineer under the current water right or approval of application;

(7) an application for an approval of application filed on an existing well currently authorized by a vested right, appropriation right, or approval of application that requests a quantity of water equal to or less than the currently available quantity of water that will be conjunctively reduced from a well authorized by either a vested right or certified appropriation right meeting either of the criteria specified in paragraph (c)(1);

(8) an application for an approval of application that meets the criteria of K.A.R. 5-24-10; and

(9) an application for an additional rate of diversion only that meets the requirements of K.A.R. 5-4-5.

(c)(1) To be exempt from this regulation, each application for an approval of application filed on an existing well currently authorized by a vested right, appropriation right, or approval of application that requests a quantity of water equal to or less than the currently available quantity of water

that will be conjunctively reduced from a well authorized by either a vested right or certified appropriation right shall meet either of the following criteria:

(A) Be located within 2,640 feet of the existing well that will have its authorized quantity reduced; or

(B) be located within a distance from the currently authorized well for which a Theis analysis shows a .5 foot or greater drawdown, using the following assumptions:

(i) The certified rate of diversion of the currently authorized well;

(ii) the certified annual quantity of water for the currently authorized well;

(iii) the pumping time equal to the time it takes to pump the certified annual quantity at the certified rate of diversion;

(iv) the drawdown computed at the time equal to the pumping time; and

(v) the transmissivity and storage coefficient derived either from a time drawdown aquifer pump test of the currently authorized well or from use of the well log from the currently authorized well or a well log from a test hole or well located within 300 feet of the currently authorized well, using the procedure described in pages 26-27 of the United States geological survey's water-resources investigations report 85-4198, published in 1985. The pages specified in this paragraph are hereby adopted by reference.

(2)(A) For water rights authorized for irrigation use, the currently available quantity of water shall be calculated as follows:

(i) Determine the maximum number of acres actually irrigated during the perfection period. For vested rights, use the maximum number of acres irrigated in any one calendar year before June 29, 1945; and

(ii) use the 80 percent chance rainfall net irrigation requirements (NIR) for corn as set forth in K.A.R. 5-5-12 to determine the NIR for each acre, and then divide that value by .85 to adjust for efficiency.

(B) For non-irrigation water rights, the currently available quantity of water shall not exceed the actual consumptive use during the perfection period.

(3) Each well that has a reduced or new water right pursuant to this subsection shall be equipped with a water flowmeter meeting the requirements of article one of the chief engineer's regulations.

(4) The maximum distance that a well shall be

relocated under paragraph (c)(1)(B) shall be the distance computed as described in paragraph (c)(1)(B), or 3,960 feet, whichever is less.

(5) The historic consumptive use of a well meeting the requirements of paragraph (b)(7) that is accounted for in the Republican river compact, K.S.A. 82a-518 and amendments thereto, accounting as a stream depletion reaching the Republican river downstream of Trenton dam shall not be transferred to a well that would cause a depletion reaching the Republican river upstream of Trenton dam.

(6) The total net acreage authorized by the following shall not exceed the current net total authorized acreage for both wells:

- (i) The approval of application;
- (ii) the water right being reduced; and
- (iii) the water right currently authorizing the well for which the new water right is sought. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended May 1, 1985; amended May 1, 1987; amended Aug. 19, 1991; amended Jan. 30, 2004.)

5-24-3. Well spacing. (a) Except as specified in subsection (b), the spacing between each proposed well and all other wells authorized to withdraw water from the same source of water supply shall be as follows:

(1) In the Ogallala aquifer and in alluvial aquifers not closed to new appropriations, the required minimum spacing for nondomestic, non-temporary wells shall be as follows:

- (A) 0 to 175 acre-feet requested: a minimum spacing of 1,400 feet;
- (B) 176 to 350 acre-feet requested: a minimum spacing of 2,000 feet;
- (C) 351 to 575 acre-feet requested: a minimum spacing of 2,400 feet; and
- (D) more than 575 acre-feet requested: a minimum spacing of 2,800 feet.

(2) If the quantity of water authorized or applied for includes a fraction of an acre-foot, the quantity of water shall be rounded off to the nearest acre-foot of water for the purpose of applying this regulation.

(3) Each nondomestic well shall be spaced a minimum of 800 feet from each domestic well constructed in the same aquifer unless the chief engineer determines that one of the following criteria is met:

(A)(i) The domestic well is owned by the applicant;

(ii) the applicant signs a written request to waive the spacing requirement to the domestic well;

(iii) the applicant submits information documenting the location and depth of the domestic well, and any other information necessary to determine whether the domestic well is likely to be impaired; and

(iv) a Theis analysis or other hydraulic analysis done by the chief engineer shows that the domestic well is not likely to be impaired by the proposed well; or

(B)(i) The owner of the domestic well signs a written request to waive the spacing requirement to the domestic well;

(ii) the applicant submits information documenting the location and depth of the domestic well, and any other information necessary to determine whether the domestic well is likely to be impaired; and

(iii) a Theis analysis or other hydraulic analysis done by the chief engineer shows that the domestic well is not likely to be impaired by the proposed well.

(4) Each nondomestic application for additional water from an existing well already authorized by one or more water rights shall meet the minimum spacing requirements in paragraph (a)(1) for the cumulative total of all existing water rights, earlier appropriations, and the proposed appropriation for that well.

(5) For a battery of wells, the well spacing shall meet the minimum spacing in paragraph (a)(1) based on the total amount of water applied for by the battery of wells. The minimum spacing distance shall be measured from the geocenter of the proposed battery of wells.

(6) Nondomestic wells withdrawing water from a cretaceous aquifer shall be spaced a minimum of four miles from all other wells withdrawing water from a hydraulically connected cretaceous aquifer. The spacing between a nondomestic well withdrawing water from a cretaceous aquifer and a domestic well withdrawing water from the same aquifer shall be a minimum of 2,640 feet unless one of the following criteria is met:

(A)(i) The domestic well is owned by the applicant;

(ii) the applicant signs a written request to

waive the spacing requirement to the domestic well;

(iii) the applicant submits information documenting the location and depth of the domestic well, and any other information necessary to determine whether the domestic well is likely to be impaired; and

(iv) a Theis analysis or other hydraulic analysis by the chief engineer shows that the domestic well is not likely to be impaired by the proposed well; or

(B)(i) The owner of the domestic well signs a written request to reduce the spacing requirement to the domestic well;

(ii) the applicant submits information documenting the location and depth of the domestic well, and any other information necessary to determine whether the domestic well is likely to be impaired; and

(iii) a Theis analysis or other hydraulic analysis done by the chief engineer shows that the domestic well is not likely to be impaired by the proposed well.

(b) The well spacing requirements of subsection (a) shall not apply to the following:

(1) Spacing to a standby well;

(2) spacing to another well if either of the following conditions is met:

(A)(i) The other well is owned by the applicant;

(ii) the owner of the other well signs a written request to reduce the spacing requirement to the other well;

(iii) the applicant submits information documenting the location and depth of the other well, and any other information necessary to determine whether the other well is likely to be impaired by the proposed well; and

(iv) a Theis analysis or other hydraulic analysis done by the chief engineer shows that the proposed well is not likely to impair the other well; or

(B)(i) The owner of the other well files a written request to waive the spacing requirement to the proposed well;

(ii) the applicant submits information documenting the location and depth of the other well, and any other information necessary to determine whether the other well is likely to be impaired by the proposed well; and

(iii) a Theis analysis or other hydraulic analysis done by the chief engineer shows that the proposed well is not likely to impair the other well;

(3) a replacement well that meets one of the following criteria:

(A) The well is being replaced within 300 feet of the currently authorized location; or

(B) both of the following conditions are met:

(i) The proposed replacement well location increases the spacing to all other wells for which the spacing requirement was not met on the date the application for a change in point of diversion was filed; and

(ii) the proposed replacement well location continues to meet the requirements for spacing to all wells for which the well spacing requirement was met at the time the application for change in point of diversion was filed; and

(4) an additional well if the original well and the additional well are owned by the same owner or owners. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended Jan. 30, 2004.)

5-24-4. Tailwater control and waste. No person shall commit or allow a waste of water as defined in K.A.R. 5-1-1. Runoff from precipitation shall not be considered a waste of water. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended Jan. 30, 2004.)

5-24-5. Allowable appropriation—reasonable use. (a) The maximum reasonable annual quantity of water for irrigation use shall not exceed the standards adopted in K.A.R. 5-3-19, K.A.R. 5-3-20, K.A.R. 5-3-21, K.A.R. 5-3-23, and K.A.R. 5-3-24.

(b) The annual quantity of water deemed reasonable on an application for municipal use shall be determined using the following criteria:

(1) The annual quantity of water needed for residential use shall be based on a population projection for the ensuing 20 years. The projected population shall be determined by extending present population for 20 years at one and one-half percent per year increase.

(2) The total quantity of water reasonable for the residential population shall then be determined by the following:

(A) Multiplying the projected population by the current per capita use; and

(B) adding a reasonable quantity of water for the present and projected industrial use for the ensuing 20-year-period.

(3) Municipalities may purchase, condemn, or otherwise acquire existing water rights in excess of the quantities set forth in paragraphs (b) (1) and (2) and apply to the chief engineer to change a reasonable quantity of the acquired water rights for municipal use, which shall not exceed 200 percent of the quantity considered reasonable pursuant to paragraphs (b)(1) and (2).

(c) The quantities of water deemed to be reasonable for livestock and poultry shall be determined pursuant to K.A.R. 5-3-22.

(d) All applications for any other type of beneficial use shall be reviewed to determine if the annual quantity of water and rate of diversion requested are reasonable for the intended use based on the best information available. (Authorized by K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5, and K.S.A. 82a-706a; implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5; effective May 1, 1983; amended Aug. 19, 1991; amended Jan. 10, 2003.)

5-24-6. Changes in points of diversion.

(a) Each replacement well shall meet all of the criteria in either of the following paragraphs:

(1)(A) Be located within 2,640 feet of the currently approved well location; and

(B) meet the well spacing criteria of K.A.R. 5-24-3; or

(2)(A) Be located within a distance from the currently authorized well for which a Theis analysis shows a .5 foot or greater drawdown, using the following assumptions:

(i) The certified rate of diversion of the currently authorized well;

(ii) the certified annual quantity of water for the currently authorized well;

(iii) the pumping time equal to the time it takes to pump the certified annual quantity at the certified rate of diversion;

(iv) the drawdown computed at the time equal to the pumping time;

(v) the transmissivity and storage coefficient derived either from a time drawdown aquifer pump test of the currently authorized well or from use of the well log from the currently authorized well or a well log from a test hole or well located within 300 feet of the currently authorized well, using the procedure specified in K.A.R. 5-24-2(c)(1)(B)(v); and

(B) meet the well spacing criteria of K.A.R. 5-24-3.

(b) The maximum distance that a well may be

relocated under paragraph (a)(2) shall be the distance computed as specified in paragraph (a)(2), or 3,960 feet, whichever is less. If the historic consumptive use of the well being replaced is accounted for in the Republican river compact, K.S.A. 82a-518 and amendments thereto, accounting as a stream depletion reaching the Republican river downstream of Trenton dam, that consumptive use shall not be transferred to a well that would cause a depletion reaching the Republican river upstream of Trenton dam.

(c) No change in a point of diversion application that proposes to change the authorized point of diversion from one well to a battery of wells shall be approved unless at least one of the following conditions has been met:

(1) Water is available for appropriation pursuant to K.S.A. 5-24-2 at the geocenter of the proposed battery of wells or would be available if the current water right were dismissed.

(2) The proposed battery of wells meets the requirements of K.A.R. 5-2-3. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended May 1, 1987; amended Jan. 30, 2004.)

5-24-7. Well construction criteria.

(a) Each nondomestic well that is not subject to regulation under the Kansas chemigation safety law, K.S.A. 2-3301 et seq., and amendments thereto, and that is completed after May 1, 1983 shall include the installation of a check valve that meets or exceeds specifications adopted by the chief engineer which were in effect at the time the well was completed.

(b) All wells, including domestic wells, to be completed in a cretaceous aquifer shall be constructed in a manner that prevents the cretaceous aquifer from mixing with all quaternary, tertiary, and any other cretaceous water-bearing strata that have no natural hydraulic connection between the formation or formations in which the well will be screened. (Authorized by and implementing K.S.A. 82a-1028; effective May 1, 1983; amended Jan. 10, 2003.)

5-24-8. Resource development plans.

(a) A resource development plan may be required by the district to be submitted for any of the following:

(1) A new application to appropriate water for irrigation use;

(2) a nonemergency application to change the

place of use or the use made of water from irrigation to another type of use that involves an actual physical change in operation; or

(3) a new application to appropriate water for nonirrigation purposes if one of the following criteria is met:

(A) The quantity of water requested is likely to be unreasonable.

(B) The proposed beneficial use is likely to be inefficient.

(C) The proposed operation is likely to result in a waste of water.

(D) The owner or operator has a recent, documented history of noncompliance with the provisions of the Kansas water appropriation act or regulations adopted pursuant to the act.

(b) Each resource development plan shall include a description of the proposed operation, including the diversion works, the distribution system, and all other matters necessary to determine whether the proposed annual quantity of water is likely to be reasonable and not wasteful.

(c)(1) The applicant shall be notified by the district whenever an applicant is required to submit a resource development plan. This notification shall include the deadline for submitting the plan. The district shall then review the plan and submit it to the chief engineer with one of the following recommendations:

(A) The application should be approved because the proposed plan meets the regulatory requirements, and those portions of the plan consistent with the conservation plan guidelines adopted by the Kansas water office should be required as a conservation plan as a condition of the approval of application.

(B) The application should be approved if certain changes are made to the plan, and the amended plan should be required as a condition of the approval of application insofar as it is consistent with the water conservation planning guidelines adopted by the Kansas water office.

(C) The plan does not meet the regulatory requirements, and the application should not be approved.

(2) Each water conservation plan required by the chief engineer shall be made a condition of the approval of application. The required water conservation plan shall be fully implemented before diversion of water occurs pursuant to that approval of application. After the plan is implemented, the owner shall maintain the plan in a satisfactory manner.

(d) In addition to meeting the requirements specified in subsection (b), for irrigation use, the resource development plan shall meet the following requirements:

(1) Include irrigation system design, tailwater control methods, well yield, and cropping patterns; and

(2) comply with design criteria meeting the following requirements:

(A) Are set forth in the national engineering handbook (NEH), part 652, irrigation guide, dated November 13, 1997, as amended through the Kansas state supplement dated May 8, 2003, which is hereby adopted by reference; and

(B) are consistent with the "irrigation water conservation program for the state of Kansas," published by the Kansas water office in November 1993 and hereby adopted by reference.

(e) For municipal use, the plan shall comply with the "Kansas 1990 municipal water conservation plan guidelines," second edition, which is published by the Kansas water office and hereby adopted by reference.

(f) In addition to meeting the requirements specified in subsection (b), for all other types of beneficial use, the resource development plan shall include a description of the proposed use of water in sufficient detail to determine if the proposed use is reasonable and not wasteful. (Authorized by K.S.A. 2002 Supp. 82a-1028 and K.S.A. 82a-706a; implementing K.S.A. 2002 Supp. 82a-1028; effective Jan. 10, 2003; amended Jan. 30, 2004.)

5-24-9. Water flowmeters. (a) Each of the following types of wells shall be equipped with a water flowmeter meeting the water flowmeter and installation specifications in K.A.R. 5-1-4 through K.A.R. 5-1-12 at the time the well is permitted:

(1) Any nondomestic, nontemporary well permitted or drilled after May 1, 1980;

(2) any nondomestic, nontemporary well actually drilled after May 1, 1980 pursuant to an approval of an application for a change in point of diversion; and

(3) any well reduced in annual quantity of water authorized in order to allow approval of another application pursuant to K.A.R. 5-24-2.

(b) In addition to meeting the requirements of this regulation, each owner shall meet the requirements specified in K.A.R. 5-3-5e. (Authorized by K.S.A. 82a-1028, as amended by L. 2002, Ch. 137,

§ 5, and K.S.A. 82a-706a; implementing K.S.A. 82a-1028, as amended by L. 2002, Ch. 137, § 5, and K.S.A. 2001 Supp. 82a-1903, as amended by L. 2002, Ch. 137, § 7; effective Jan. 10, 2003.)

5-24-10. Exemptions for up to 15 acre-feet of groundwater. (a) In any area of the district that is subject to safe yield criteria and is not closed by specific regulation or intensive groundwater use control area order by the chief engineer to new nondomestic, nontemporary permits and term permits for five or fewer years, each application to appropriate groundwater shall be exempt from meeting the safe yield criteria if all the following conditions are met:

(1) The maximum annual quantity of water proposed in the application is 15 acre-feet or less.

(2) The well spacing criteria of K.A.R. 5-24-3 have been met.

(3) An existing water right from the same source of water supply that has a point of diversion located within two miles of the proposed point of diversion has its authorized annual quantity reduced as described in subsection (b).

(4) All issues relating to the possible abandonment of the offsetting water right are resolved by the chief engineer before determining the annual quantity of offset water that is available from the existing water right.

(5) The approval of the application does not authorize an additional quantity of water out of an existing authorized well with a nondomestic permit or water right that would result in a total combined annual quantity of water authorized from that well in excess of 15 acre-feet.

(6) The approval of the application does not authorize an additional quantity of water to be used on a currently authorized nondomestic place of use.

(b) If the water right to be used as the offset for the new appropriation is a water right authorized for irrigation use, the authorized quantity of water needed to offset the new appropriation of not more than 15 acre-feet of water shall be calculated as follows:

(1) Step one.

(A) Multiply the net irrigation requirement for the 50 percent chance rainfall for the county of origin, as specified in K.A.R. 5-5-12, times the maximum number of acres legally irrigated in any one calendar year during the perfection period. For vested rights, the acreage used shall be the

maximum acreage legally irrigated in any one calendar year before June 28, 1945.

(B) The calculation made in paragraph (b)(1)(A) shall result in the maximum annual quantity of water that could be changed to another type of beneficial use if the entire water right were changed pursuant to K.A.R. 5-5-9(a)(1).

(2) Step two.

(A) Divide the annual quantity of water desired to be changed to the new beneficial use by the maximum annual quantity of water that could be changed if the entire water right were changed to the new use.

(B) The calculation made in paragraph (b)(2)(A) shall result in the percentage of the entire reduced water right that will be changed to the new use. The remaining percentage of the current water right may be retained by the irrigation water right owner.

(3) Step three.

(A) Multiply the remaining percentage calculated in paragraph (b)(2)(B) times the total currently authorized quantity. The resulting product shall be the annual quantity of water that can be retained by the irrigation water right owner.

(B) The portion of the authorized annual quantity of water not retained by the irrigator as described in paragraph (b)(3)(A) shall be permanently reduced from the authorized annual quantity of the offsetting water right and used to offset the new appropriation.

(c) If the water right to be used as the offset for the new appropriation is an existing water right authorized for nonirrigation use, the total net consumptive use of the offsetting water right after the change and the new appropriation shall not exceed the net consumptive use of the offsetting water right before the change.

(d) The place of use authorized by the offsetting water right shall be reduced in proportion to the reduction in the maximum annual quantity of water as determined in paragraph (b)(1)(B). If the owner of the irrigation water right desires to retain more authorized acres, the directions specified in K.A.R. 5-5-11(b)(2)(B)(ii) shall be followed to determine whether the irrigator may retain more acres in the authorized place of use.

(e) After the use of not more than 15 acre-feet has been approved pursuant to this regulation, no application for change for that water right shall be approved for any quantity of water that would authorize the water to be diverted from a currently authorized point of diversion or to be used on a

currently authorized place of use. (Authorized by K.S.A. 82a-706a and K.S.A. 2005 Supp. 82a-1028; implementing K.S.A. 2005 Supp. 82a-1028; effective Jan. 10, 2003; amended Dec. 8, 2006.)

5-24-11. Investigation and enforcement.

The procedure set forth in this regulation shall be followed whenever enforcement action is taken by the district after it becomes aware that a person could be violating any of the regulations adopted by the chief engineer that relate to conservation and management of groundwater within the district.

(a) If a violation is discovered by the district's staff, the enforcement procedure shall begin with the step specified in subsection (c). In all other cases, a complaint may be filed with the district either verbally or in writing. The complaint shall describe and specify the following:

- (1) The nature of the alleged violation;
- (2) the location of the alleged violation;
- (3) the name of the complainant;
- (4) the mailing address of the complainant; and
- (5) any other information necessary for the staff to understand the alleged violation and assist the staff in investigating the complaint.

(b) Before the staff makes any field investigation of the complaint, the staff shall make at least one attempt to contact an owner, operator, or other responsible representative of the water right or approval of application to notify the individual that a field investigation will be made.

(c) The district's staff shall make an investigation under either of the following circumstances:

(1) A complaint has been filed with the district, and the requirement specified in subsection (b) has been met.

(2) The district's staff discovers a violation of any regulation adopted by the chief engineer relating to conservation and management of groundwater within the district.

(d) A written report of the investigation shall be prepared by the staff. This report shall include any documents relied on or prepared by the staff in investigating the complaint or internally discovered violation. The report shall become a part of the official district record concerning the investigation. If a water right or an approval of application is involved, the report shall be made a part of that file.

(e) If the investigation shows that no violation has occurred or that enforcement action is not warranted, a copy of the report shall be sent to

the complainant, if the investigation was prompted by a complaint, and the water right owner. A copy shall be retained in the district office. No further enforcement action shall be taken by the district at that time.

(f)(1) If the investigation determines or confirms that a violation has occurred, the report shall contain an order issued by the district staff, which shall be sent by restricted mail to the water right owner as shown in the district records and to any other person who is known by the district to have been committing the violation. The order shall specify and include the following:

(A) A description of the violation, including the specific regulations that are being violated;

(B) the actions necessary to correct the violation;

(C) a reasonable time frame to correct the violation;

(D) a statement that extensions of time to correct any violation may be granted by the staff if good cause is shown by the water right owner or other responsible party;

(E) a statement that the order is effective immediately;

(F) a statement that if the violation is corrected within the time specified by the order, the violator is required to notify the district, and an inspection will be conducted by the staff to determine if the violation has ceased;

(G) a statement that if any party desires to appeal an order issued by the staff, an appeal to the board is required to be requested within 15 days of the issuance of the order by a water right owner or violator;

(H) a statement that the request for an appeal may also request a stay of the order. If the requestor demonstrates good cause for a stay, a stay of the order may be granted by the staff or the board; and

(I) a statement that any subsequent violations of the same nature will be handled as a continuation of the current violation, not a new violation.

(2) A copy of the report shall be sent to the complainant.

(g) If the violation is corrected within the time frame specified by the order, the violator shall notify the district, and an inspection shall be conducted by the staff to determine if the violation has ceased. If the staff investigation determines that the violation has been corrected within the time frame specified by the order and in accord-

ance with the district order, the enforcement activity by the district shall cease.

(h) If the violation has not been corrected within the time frame specified in the order and in the manner specified in the order, one or more of the following actions may be taken by the board:

- (1) Seeking an injunction to stop the violation;
- (2) requesting enforcement assistance from the chief engineer; or
- (3) requesting enforcement assistance from the attorney general. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Jan. 30, 2004.)

Article 25.—BIG BEND GROUNDWATER MANAGEMENT DISTRICT NO. 5

5-25-1. Definitions. As used in these regulations for the Big Bend groundwater management district no. 5, unless the context clearly requires otherwise, the following words and phrases shall have the meaning ascribed to them in this regulation:

(a) “Aquifer” means a geologic formation capable of yielding water in a quantity sufficient to supply water to a spring or pumping well.

(b) “Baseflow” means groundwater that seeps, flows, or is otherwise naturally discharged from an aquifer into a stream.

(c) “Baseflow node” means an artificial point located in the channel of a stream for the purpose of allocating a proportional amount of the baseflow to be considered when evaluating a new application to appropriate water from a proposed point of diversion located within two miles of the node.

(d) “Baseflow node allocation” means the annual quantity of water assigned to a baseflow node expressed in acre-feet per year. The baseflow node allocation shall be based on the natural discharge to a stream, which shall be the rate of flow in the stream that is equaled or exceeded 90 percent of the time.

(e) “Bedrock aquifer” means any consolidated material and unconsolidated material that is older than the Dakota formation of the Dakota aquifer system, as defined in K.A.R. 5-1-1, and that will yield water in a quantity sufficient to supply a spring or a pumping well.

(f) “Board” means the board of directors con-

stituting the governing body of the Big Bend groundwater management district no. 5.

(g) “Dakota aquifer” means that portion of the Cretaceous Dakota formation that is capable of yielding water in a quantity sufficient to supply water to a spring or pumping well.

(h) “District” means the Big Bend groundwater management district no. 5.

(i) “Neat cement” means one 94-pound bag of Portland cement mixed with five to six gallons of clean water.

(j) “Portland cement” means class A, type I cement.

(k) “Stream” means any watercourse, or part of a watercourse, with a well-defined bed and banks that flows continuously during the calendar year, except during a drought.

(l) “Sustainable yield” means the long-term yield of the source of supply, including hydraulically connected surface water or groundwater, allowing for the reasonable raising and lowering of the water table.

(m) “Well” means any excavation that is drilled, cored, bored, washed, driven, dug, or otherwise constructed, either by nature or by man, when the proposed use of the excavation is for the acquisition, diversion, or artificial recharge of groundwater. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1980; amended May 1, 1987; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-2. Well spacing. (a) With the exception of those wells described in subsection (b), the minimum spacing of all wells described in an application to appropriate water for beneficial use, other than those wells for domestic use, shall be 1,320 feet from the following:

(1) All other non-domestic wells and proposed non-domestic wells that carry an earlier priority; and

(2) baseflow nodes.

Non-domestic wells shall be 660 feet from all existing domestic wells, except those domestic wells owned by the applicant.

(b)(1) Each replacement well drilled within 100 feet of the originally authorized point of diversion shall be exempt from the well spacing requirement of subsection (a).

(2) Each non-domestic well that proposes the withdrawal of groundwater from the Dakota aquifer or any bedrock aquifer shall be one mile

from all other wells withdrawing groundwater from the same formation, including domestic wells, except those domestic wells owned by the applicant. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1980; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-2a. Change in point of diversion.

(a) The location of a well requested in an application to change a point of diversion shall be no more than 2,640 feet from the point of diversion currently authorized by a vested right, appropriation right, or an application to appropriate water for beneficial use. This well shall also meet the minimum spacing requirement established in K.A.R. 5-25-2. If the point of diversion was not completed at the currently authorized point of diversion, the location of a well requested in an application to change the point of diversion shall be no more than 2,640 feet from the last authorized point of diversion for which the diversion works were completed.

(b) If the current authorization for a well requires one or more observation wells to be installed in accordance with K.A.R. 5-25-10, then the approval of an application for a change in the point of diversion shall also require the installation of one or more new observation wells in accordance with K.A.R. 5-25-10 if either of the following conditions exists:

(1) The well is proposed to be located 300 feet or more from the currently authorized well location.

(2) The well is proposed to be located more than 50 feet and less than 300 feet from the currently authorized well location, and the water quality analysis required pursuant to K.A.R. 5-25-10 shows that the chloride concentration exceeds 500 milligrams per liter (mg/l) at the currently authorized well location.

(c) The number and location of test holes or observation wells required for the approval of an application to change the point of diversion from a single well to a battery pursuant to subsection (b) shall be based on the locations and the number of wells in the proposed battery. Hydrologic factors, including groundwater flow direction, lithology, and chlorides at the location, shall be considered.

(d) An approval of an application to change the point of diversion shall not authorize the proposed

well to be completed in an aquifer other than the aquifer or aquifers in which the currently authorized well was authorized to be completed. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-3. Reasonable appropriation. (a) An application for a permit to appropriate water for irrigation use shall not be recommended by the board for approval for a quantity in excess of those quantities specified in K.A.R. 5-3-19.

(b) For livestock and poultry, the maximum annual quantity of water shall be limited to those quantities specified in K.A.R. 5-3-22.

(c) For all uses of water, the quantity of water requested shall be reasonable for the proposed beneficial use, and the approval shall neither impair an existing right nor prejudicially and unreasonably affect the public interest. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1980; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-4. Sustainable yield. (a) Except as set forth in subsections (b) and (c), the district has been determined to be appropriated to the sustainable yield level, and therefore the entire district shall be closed to further new surface water and groundwater appropriations filed on or after December 17, 1998.

(b) The following types of applications shall be exempt from the closure of the district to new appropriations of water described in subsection (a):

- (1) Domestic use;
- (2) temporary permits;
- (3) applications for a change in the point of diversion for which the diversion works have been completed under the original approved application;
- (4) standby wells used for emergency purposes only;
- (5) permits to appropriate 15 acre-feet of water or less per year that are exempt pursuant to K.A.R. 5-25-15;
- (6) term permit applications of one year or less and those term applications meeting the requirements of K.A.R. 5-25-13;
- (7) permits to appropriate water from a bedrock aquifer;

(8) permits to appropriate water from the Dakota aquifer if the applicant can show either of the following:

(A) No Pleistocene aquifer exists within 5,280 feet of the proposed well location; or

(B) there is a significant difference in hydraulic head between the Pleistocene aquifer and the Dakota aquifer; and

(9) an application that proposes to use water in a manner so that there is no significant consumptive use of the local source of supply either in quantity or availability of water for use by other appropriators.

(c)(1) For each application for a change in the point of diversion, if the diversion works have not been completed, the application shall be exempt from the closure to new appropriations set forth in subsection (a). However, the proposed appropriation, when added to the vested rights, prior appropriation rights, earlier priority applications, term permits for more than a year, and all base-flow node allocations within a two-mile-radius circle whose center is the location of the proposed well, shall not exceed 1,500 acre-feet. It shall be assumed for purposes of analysis that all prior applications, permits, certificates, and vested rights are being fully exercised and that all limitation clauses listed on permits and certificates are in force.

(2) If part of the area within the two-mile-radius circle around the proposed well location is outside the district boundaries, the 1,500 acre-feet quantity of water referred to above in paragraph (c)(1) shall be reduced proportionately by the percentage of the circle lying outside of the district boundaries. Only the baseflow node allocations, vested rights, prior appropriations, earlier priority applications, and term permits for more than one year ascribed to wells within the portion of the circle within the district shall be considered.

(3) If all of the wells authorized under a vested right or an application are not included inside the circumference of the circle, then a reasonable quantity shall be allocated to each well based upon the best available information.

(4) Each analysis for an application for a change in the point of diversion referred to in subsection (c) shall include all applications with a priority earlier than the priority established by the filing of the application for change. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-708b, and K.S.A. 2002 Supp. 82a-

1028; effective May 1, 1980; amended May 1, 1981; amended, T-86-4, March 22, 1985; amended May 1, 1986; amended May 1, 1987; amended May 1, 1988; amended April 19, 1996; amended March 16, 2001; amended Oct. 31, 2003.)

5-25-5. Well equipment. (a) Each non-domestic well, except any well authorized by a temporary permit, shall be equipped with a water flowmeter that meets or exceeds the requirements of subsection (c).

Each non-domestic, non-temporary well not subject to regulation under the Kansas chemigation safety law, K.S.A. 2-3301 et seq. and amendments thereto, shall be equipped with an in-line, automatic, quick-closing check valve capable of preventing pollution of the source of water supply.

(b) Each check valve installed shall meet or exceed the specifications set forth in K.A.R. 5-6-13a.

(c) Each water flowmeter required by the board, or pursuant to a regulation adopted by the chief engineer, before the effective date of this regulation, shall meet or exceed applicable requirements of article 1 of the division's regulations. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1980; amended May 1, 1985; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-6. Reporting water use. Each water right owner shall report to the board the readings of water meters, gauges and other measuring devices at such times as may be required by the board. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(l); effective May 1, 1980; amended April 19, 1996.)

5-25-7. Water quality tests. Each water right owner shall take water samples from the owner's wells and have water quality analyses made on those samples at the owner's expense at times specified by the board. A laboratory licensed by the Kansas department of health and environment shall conduct the water quality analyses. The type of water quality analyses conducted shall be specified by the board. The owner shall submit the results of the water quality analyses to the board. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(k); effective May 1, 1980; amended April 19, 1996.)

5-25-8. Waste of water. A person shall not commit or allow a waste of water as defined in

K.A.R. 5-1-1. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1980; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-9. Procedures for non-compliance with rules and regulations. (a) The district's board or manager, any eligible voter or any person 18 years or older residing within the district may file a written complaint with the district alleging a violation of these rules and regulations, the management program, the groundwater management district act or the Kansas water appropriation act, as amended. The written complaint shall be filed at the district office.

(b) Within 30 days following the filing of the complaint, a representative of the district designated by the board shall investigate the complaint. If the representative of the district finds that a violation exists or did exist, the representative shall issue a written directive to the violator to come into compliance with the applicable rules and regulations, management program and laws, within a reasonable period of time.

(c) If the violator fails to comply with the directive of the representative within a reasonable period of time as determined by the board, the district may:

(1) seek to enjoin the violator's use of water by suitable action in district court until such time as the violator complies;

(2) seek the assistance of the chief engineer and attorney general of the state of Kansas to enjoin the violator's use of water until such time as the violator complies; or

(3) pursue other courses of action in the public interest. (Authorized by K.S.A. 82a-706a and K.S.A. 82a-1028(o); implementing K.S.A. 82a-1028(n); effective May 1, 1980; amended May 1, 1981; amended April 19, 1996.)

5-25-10. Test holes and water quality analyses. (a) Except for those types of applications described in K.A.R. 5-25-4(b), each applicant proposing to divert groundwater for non-domestic use within the district shall drill a test hole that shall meet the following requirements:

(1) Be drilled within 20 feet of the proposed well to the bottom of the aquifer;

(2) be completed as an observation well according to the following specifications:

(A) A casing made of schedule 80 PVC with a

minimum outside diameter of three inches shall be used;

(B) five feet of well screen shall be installed at the base of the usable aquifer;

(C) the annular space shall be grouted with neat cement from the top of the well screen to the land surface; and

(D) centralizers shall be placed on the casing at intervals of not greater than 40 feet starting at the bottom of the casing; and

(3) be drilled under the supervision of the district.

(b) Each applicant shall have a water sample taken from within five feet of the bottom of the aquifer and shall have the water sample analyzed for chloride content by a laboratory certified by the Kansas department of health and environment. The applicant shall furnish the results of the water quality analysis and a copy of the test hole log to the district.

(c) If the analysis of the water sample taken within five feet of the bottom of the aquifer indicates that the chloride content exceeds 500 milligrams per liter (mg/l), the application to appropriate water shall be recommended for denial by the district unless both of the following conditions are met:

(1) The applicant shows that approval of the application will not cause an unreasonable deterioration of the water quality nor prejudicially and unreasonably affect the public interest.

(2) The applicant desires to proceed and is willing, at the applicant's expense, to drill and complete at least two additional observation wells at locations to be determined by the district based on the lithology and the construction of the proposed well. Both of these two additional observation wells shall be constructed according to specifications adopted by the district and in the presence of a representative of the district. The two additional observation wells shall be constructed and screened above the saltwater and freshwater interface at a depth specified by the district. If the proposed point of diversion is to be a well battery, the number and location of the test holes and observation wells required shall be determined by the district based on the best hydrogeologic information available, including groundwater flow direction, lithology, and chloride levels.

(d) If at any time the chloride concentration in either of the latter two observation wells exceeds 500 mg/l, the owner shall reduce the instantaneous rate of pumping or the annual quantity

pumped, or both, as necessary to reduce the chloride concentration in both observation wells to below 500 mg/l.

(e) The permit shall be dismissed and the owner shall properly plug the well at the owner's expense if either of the following occurs:

(1) Within one year after the chloride concentrations exceed 500 mg/l in either of the two observation wells, the chloride concentrations are not reduced below 500 mg/l.

(2) Operation of the well causes impairment of any other water right, including a domestic water right. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a, and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended April 19, 1996; amended Oct. 31, 2003.)

5-25-11. Determination of well locations. If a question arises as to where a well is located, the burden of proof shall remain upon the applicant to show the actual location of the well in question. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective May 1, 1983; amended Oct. 31, 2003.)

5-25-12. Approval of application for additional rate only. Each application for a permit to appropriate water for beneficial use that requests only an increase in the authorized rate of diversion, and no net increase in maximum annual quantity, from a specific point of diversion already authorized by another water right or approval of application shall be exempt from meeting the requirements of K.A.R. 5-25-4 if the application meets the requirements of K.A.R. 5-4-5. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-13. Term permits. The approval of an application, or an extension of a term permit, for more than one year may be granted only if one of the following conditions is met:

(a) The term permit authorizes the use of contaminated water. For the purpose of this regulation, water containing chlorides in excess of 1,000 milligrams per liter (mg/l) shall be considered to be contaminated. For other types of contamination, the level of contamination at which an application may be approved in accordance with this

regulation shall be based on the best information available.

(b) The term permit authorizes the use of water for aquifer remediation.

(c) The term permit authorizes hydraulic dredging.

(d) The applicant demonstrates that approval of an extension of the expiration date of a term permit for more than one year will neither impair a use under an existing water right or approval of application nor prejudicially and unreasonably affect the public interest. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-14. Battery of wells. (a) An application for a change in point of diversion to convert one well to a battery of wells, as defined in K.A.R. 5-1-1, shall not be considered for approval unless all of the criteria in paragraph (a)(1), (2), or (3) below are met:

(1)(A) The proposed battery of wells meets the definition of a battery of wells as defined in K.A.R. 5-1-1.

(B) The time to construct the diversion works has not expired.

(C) The proposed rate of diversion does not exceed the currently authorized rate of diversion.

(2)(A) The proposed battery of wells meets the definition of a battery of wells as defined in K.A.R. 5-1-1.

(B) Water is available for appropriation at the geocenter of the proposed well battery based on the criteria set forth in K.A.R. 5-25-4(c).

(C) The proposed rate of diversion does not exceed the currently authorized rate of diversion.

(3)(A) The proposed battery of wells meets the definition of a battery of wells as defined in K.A.R. 5-1-1.

(B) A certificate of appropriation has been issued pursuant to K.S.A. 82a-714 and amendments thereto.

(C) The maximum instantaneous rate of diversion approved shall be either of the following:

(i) The maximum instantaneous rate of diversion under normal operating conditions actually used during any of the three consecutive calendar years before the date of the application for change; or

(ii) the tested rate of diversion achieved under actual operating conditions made by a tester approved by the chief engineer. The test of the rate

of diversion shall be made within six months either before or after the change application is filed.

(D) The proposed rate of diversion does not exceed the currently authorized rate of diversion.

(b) In addition to meeting the requirements specified in subsection (a), the applicant shall also demonstrate that approval of the battery of wells will not impair existing water rights or approvals of applications and will not prejudicially and unreasonably affect the public interest.

(c) Each permit shall also be conditioned by the chief engineer so that the permit is subject to K.A.R. 5-25-2a (b) and (c). (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-706b, and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-15. Exemptions for up to 15 acre-feet of groundwater. Except as specified in subsection (b), an application to appropriate groundwater for up to 15 acre-feet of water shall be approved if all of the criteria in subsection (a) are met:

(a) (1) The sum of the annual quantity of water requested by the new application and the total annual quantities authorized by prior approvals of applications because of an exemption pursuant to this regulation does not exceed 15 acre-feet in a ½-mile-radius circle surrounding the proposed point of diversion.

(2) The proposed well meets the well spacing criteria set forth in K.A.R. 5-25-2.

(3) The approval of application will not authorize an additional quantity of water out of an existing authorized well with a non-domestic permit or water right that would result in a total combined annual quantity of water authorized from that well in excess of 15 acre-feet.

(4) The applicant demonstrates that approval of up to 15 acre-feet of water will not impair existing water rights or approvals of applications and will not prejudicially and unreasonably affect the public interest.

(5) All other criteria for processing a new application to appropriate water have been met.

(b) Exemptions to approve a new application to appropriate water in accordance with this regulation shall not be approved if the exemption would conflict with one of the following:

(1) The provisions of an intensive groundwater use control area order issued by the chief engineer

pursuant to K.S.A. 82a-1036 through K.S.A. 82a-1040, and amendments thereto; or

(2) the implementation of a water right purchase program in the Rattlesnake creek basin in both of the following:

(A) The corridor; and

(B) the number two priority area as shown in figure two of the Rattlesnake creek management plan accepted by the chief engineer on July 11, 2000.

(c) After the use of up to 15 acre-feet has been approved pursuant to this regulation, no application for change shall be approved for that quantity of water that would authorize that water to be diverted from another authorized point of diversion.

(d) An application approved as an exemption under this regulation shall not be leased or placed in a water bank so that it can be diverted at another location. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-711, and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-16. Water quality analyses and observation wells in the Rattlesnake creek sub-basin. Groundwater rights that have points of diversion located in the Rattlesnake creek subbasin east and north of federal highways US-281 and US-50 shall be subject to the following requirements: (a) The water right owner, or the authorized representative, shall test water samples to determine, as needed, whether the water being pumped contains more than 300 milligrams of chlorides per liter. The district may require the tests to be made at a frequency not to exceed once in 365 days.

All water quality samples shall be taken in the presence of an authorized representative of the district, and one-half of the sample shall be given to the authorized representative of the district when the sample is taken. The owner shall have the water sample analyzed for chloride content by a laboratory certified by the Kansas department of health and environment. The applicant shall furnish the results of the water quality analysis to the district within 60 days after the date the sample was taken.

(b) If the analysis of the water sample taken indicates that the chloride content exceeds 300 milligrams of chlorides per liter, the owner shall be required, before any approval of a change in point of diversion, to drill an observation well to

bedrock in the manner specified in K.A.R. 5-25-10(a). (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, K.S.A. 2002 Supp. 82a-708b, and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-17. Voluntary reductions of water rights in the Rattlesnake creek subbasin. Each water right owner in the Rattlesnake creek subbasin that agrees to meet, and does meet, all of the conditions specified in subsections (a) through (e) no later than March 31, 2004 on a water right for a center pivot irrigation system with a priority date on or before April 12, 1984 shall receive a credit toward any reduction required by alternative management actions implemented in accordance with the Rattlesnake creek basin management program accepted by the chief engineer on July 11, 2000. The amount of the credit shall be calculated by multiplying by 1.5 the total number of years that the water right has been voluntarily reduced in accordance with the terms of this regulation before any alternative actions are taken under this program times the quantity of water that was voluntarily reduced. Water right owners who have taken a reduction in their water right under this regulation shall have any further reduction through the Rattlesnake creek basin management program based on the authorized amount before a voluntary reduction is made under this regulation.

(a) The owner permanently reduces the maximum number of acres actually irrigated in any one calendar year during the period 1987 through 1996 by the number of acres previously watered by the end gun and provides documentation to the chief engineer of the number and location of the acres irrigated by the end gun during the period 1987 through 1996.

(b) The owner removes the end gun from the center pivot and certifies to the chief engineer what type of end gun has been removed.

(c) The owner installs pressure regulators on the center pivot to prevent the same rate of diversion from being pumped after the end gun is removed as was pumped before the end gun was removed and certifies to the chief engineer what pressure regulators have been installed.

(d) The chief engineer permanently reduces the authorized place of use of that water right by the maximum number of acres actually irrigated

in any one calendar year by the end gun during the period 1987 through 1996.

(e) The chief engineer permanently reduces the maximum annual quantity authorized by that water right by the quantity of water that is calculated by multiplying the number of acres previously watered by the end gun times the net irrigation requirements (NIR) for the 50 percent chance rainfall for the county in which the point of diversion is located, as set forth in K.A.R. 5-5-12. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-18. Changes of well locations within the Rattlesnake creek basin. (a) Each application to change the location of a well within the Rattlesnake creek basin by more than 2,640 feet may be approved by the chief engineer if all of the following conditions are met:

(1) The source of water supply for the currently authorized well and the proposed well is the Rattlesnake creek basin as defined in K.A.R. 5-6-15.

(2) The currently authorized well is located within the corridor or the number two priority decline area as defined in figure two of the Rattlesnake creek management plan accepted by the chief engineer on July 11, 2000.

(3) The well will be moved to a location outside the corridor or the number two priority decline area as defined in figure two of the Rattlesnake creek management plan accepted by the chief engineer on July 11, 2000.

(4) The average saturated thickness in the two-mile-radius circle in which the proposed well will be located is greater than 40 feet as shown on the saturated thickness map adopted by reference in K.A.R. 5-25-19.

(5) The water level within the two-mile-radius circle surrounding the proposed well location has not declined in excess of 20 feet of the predevelopment water level as shown in Kansas geological survey bulletins numbered 65, 80, and 88.

(6) The change proposes the relocation of all the water right or a divided water right.

(7) No other well has previously been authorized by the chief engineer to be relocated within a one-mile radius of the proposed well location under the provisions of this regulation, or the applicant demonstrates that the proposed well will not impair existing water rights.

(8) The water right that is proposed to be changed is vested or certified.

(9) All other statutory and regulatory requirements for approval of a change in point of diversion that do not conflict with this regulation are met.

(b) The approval of the change in point of diversion shall be subject to the conditions specified in this subsection:

The approval of the application to change the point of diversion shall be subject to review by the chief engineer 10 years after the approval of the change application. If the water level at the new well location has declined in excess of 10 feet from the date the new well was drilled, for the sole purpose of administering wells concerning direct impairment, the new well shall be considered to have the priority of the date of the application to change the point of diversion. The owner of the well shall have the option of applying for another change in point of diversion.

(c) The quantity of water that can be approved for a change in point of diversion meeting the requirements of subsection (a) above shall be determined based on the following tables.

Points			
point value for each column at right	saturated thickness at proposed well site, in feet	quantity of water authorized in two-mile-radius circle around proposed well, in acre-feet	feet of decline in two-mile-radius circle around proposed well since pre-development
1	146+	0-1,500	0-4
2	111-145	1,501-3,000	5-8
3	91-110	3,001-4,500	9-12
4	66-90	4,501-6,000	13-16
5	41- 65	6,001+	17-20

Percent of a water right that can be moved to a new location

number of points scored by proposed well	percent of water right that can be moved to new well location
3-6	100
7-9	90
10-12	80
13-15	70

(Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-19. Saturated thickness map. (a)

The following electronic data files, all dated July 10, 2002 and prepared by the district using data developed by the Kansas geological survey and the district, are hereby adopted by reference by the chief engineer:

- (1) Rattlesnake basin.dbf;
- (2) Rattlesnake basin.sbn;
- (3) Rattlesnake basin.sbx;
- (4) Rattlesnake basin.shp;
- (5) Rattlesnake basin.shx; and
- (6) Wln.dbf.

(b) Except as set forth in subsection (c), the electronic data files described in subsection (a) shall be used in all situations in which determination of the saturated thickness of the aquifer within the boundaries of the district is necessary.

(c) The saturated thickness shown in the electronic data files shall be used unless the applicant provides, or the chief engineer has available, better or more site-specific data concerning the actual saturated thickness of the two-mile-radius circle surrounding the well in question. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; effective Oct. 31, 2003.)

5-25-20. Recommendations by the board. (a) The following types of applications shall be submitted by the chief engineer to the district for review and recommendation:

(1) All applications to appropriate water for beneficial use, except for temporary use and domestic use; and

(2) all applications to change the point of diversion, place of use, the use made of the water, or any combination thereof, except applications to move the point of diversion less than 300 feet.

(b) The district shall conduct a review of the proposed application. Except as set forth in subsection (d), the district's recommendation to the chief engineer shall be consistent with the provisions of the Kansas water appropriation act, the groundwater management district act, and the regulations adopted by the chief engineer pursuant to those acts.

(c) Within 15 working days after the date the chief engineer submits the application to the district for review, or within any extension of time authorized by the chief engineer, the district shall submit its findings and recommendation for approval, denial, or modification of the application and shall specify the basis for the recommendation.

(d) The district may submit to the chief engineer a written recommendation of an exemption from or a waiver of a regulation. If the district submits such a recommendation, the district shall demonstrate to the chief engineer that the granting of the proposed waiver or exemption will not prejudicially and unreasonably affect the public interest and will not cause impairment of any existing water right. (Authorized by K.S.A. 82a-706a and K.S.A. 2002 Supp. 82a-1028; implementing K.S.A. 82a-706, K.S.A. 82a-706a, and K.S.A. 2002 Supp. 82a-711; effective Oct. 31, 2003.)

Articles 26 to 29.—RESERVED

Article 30.—DAMS

5-30-1. Approval of or permits for dams.

The chief engineer shall not approve or grant a permit for any dam subject to the jurisdiction of the chief engineer under the authority of K.S.A. 1979 Supp. 82a-301 through 305a as amended, unless the applicant also receives prior approval of his or her application to appropriate water for beneficial use to be diverted by means of the dam for which the approval or permit is sought, unless the sole proposed use for the water is for domestic use. (Authorized by K.S.A. 82a-706a, 82a-709; effective May 1, 1980.)

Articles 31 to 39.—RESERVED

Article 40.—DESIGN OF EARTH DAMS

5-40-1. Definitions. As used in K.S.A. 82a-301 through 82a-305a and amendments thereto, in the regulations adopted pursuant to these statutes, and by the chief engineer in administering K.S.A. 82a-301 through 82a-305a and amendments thereto, the following terms shall have the meanings ascribed to them in this regulation, unless the context clearly requires otherwise:

(a) “Application” means the formal document and any required supporting information that are submitted to the chief engineer and request a permit, pursuant to K.S.A. 82a-301 through 82a-305a, and amendments thereto.

(b) “Appurtenant works” means the primary spillway and other conduits through a dam, the valves, the auxiliary spillway, the service spillway, the stilling basin, any constructed outlet channel, all dikes and berms designed and constructed to protect the dam, the drains, and all other features constructed to protect or operate a dam.

(c) “As-built drawings” means the drawings showing a permitted project and all appurtenant works as the project and works were actually built. This term shall include the following:

(1) All deviations from the plans that were approved by the chief engineer;

(2) the location and design of any instruments and monitoring equipment that were installed at the site;

(3) the location and elevation of any benchmarks; and

(4) a certification that the permitted project was constructed as shown on the as-built drawings.

(d) “Authorized representative” means any employee of the chief engineer designated by the chief engineer to perform duties and functions on behalf of the chief engineer.

(e) “Auxiliary spillway” means an open channel that is constructed over or around an embankment for the purpose of conveying safely past the dam the flows that are greater than the primary spillway design discharge and that can be stored in the detention storage. This term is also known as an emergency spillway.

(f) “Benchmark” means a reference point or object of known elevation and location that is not expected to move horizontally or vertically during the life of the project.

(g) “Borrow area” means land, usually located near the dam, from which earth used to construct the embankment will be excavated.

(h) “Breach analysis” means an engineering analysis to determine the areas that would be inundated if a dam failed.

(i) “Channel change” means any project that alters the course, current, or cross section of any stream.

(j) “Chief engineer” means the chief engineer, division of water resources of the Kansas department of agriculture.

(k) “Control section” means the immediate downstream end of the level section of an open-channel earthen spillway. The elevation of the control section is the elevation of the open-channel spillway crest.

(l) “Cutoff collar” means a projecting flange built or installed completely around the outside of a pipe to lengthen the path of seepage along the outer surface of the pipe.

(m) “Cutoff trench” means an excavation under a dam to be later filled with impervious material to prevent or reduce the seepage of water through the foundation of a dam.

(n) "Design discharge" means the maximum rate of flow, expressed in cubic feet per second, released from a dam's spillways for the design storm.

(o) "Design storm" means the precipitation event specified in K.A.R. 5-40-22 that is the minimum precipitation event required to be used to design a particular dam.

(p) "Detention storage" means the volume in the reservoir between the lowest uncontrolled spillway, not including any low-flow augmentation works, and the crest of the auxiliary spillway.

(q) "Detention storm" means the storm described in K.A.R. 5-40-23.

(r) "Easily erodible soils" means soils with a high content of fine sand or silt and with little or no cohesion or plasticity, including fine sand, silt, sandy loam, and silty loam.

(s) "Effective height" means the difference in elevation between the crest of an auxiliary spillway or service spillway and the lowest point of the downstream toe of a dam. If the dam does not have an auxiliary or service spillway, the effective height means the difference in elevation between the top of the dam and the lowest point of the downstream toe of the dam.

(t) "Effective storage" means the volume of storage space in a reservoir below the crest of the auxiliary spillway or service spillway and above the elevation of the downstream toe of the dam at its lowest point. Effective storage shall not be reduced by accounting for accumulated sediment.

(u) "Embankment" means the earthen-fill portion of the dam.

(v) "Emergency action plan" means a formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life if the dam fails.

(w) "Erosion-resistant soils" means cohesive soils with a high clay content and high plasticity, including silty clay, sandy clay, and clay.

(x) "Freeboard" means the vertical distance between the maximum water surface elevation attained during the design storm and the top of the dam.

(y) "General plan" means a plan adopted by a watershed district, drainage district, or similar entity required by statute to be approved by the chief engineer, including any of the plans formulated under K.S.A. 24-901 and K.S.A. 24-1213, and amendments thereto.

(z) "Hazard" means the property or people that

could be damaged or endangered by the failure of a dam, including people or property that might be inundated. This term shall include a public or industrial water supply stored in the reservoir created by the dam that would be released if the dam failed.

(aa) "High-impact dams" means all of the following classes of dams:

(1) Size class 4, hazard class A dams;

(2) size classes 3 and 4, hazard class B dams; and

(3) all hazard class C dams, using the definitions of hazard class and size class in K.A.R. 5-40-20 and K.A.R. 5-40-21.

(bb) "Hydraulically most distant point in the watershed" means the point in a watershed from which a raindrop falling at that point takes the longest time to reach the dam.

(cc) "Impervious material" means material that allows a relatively low rate of water movement through its cross section.

(dd) "Inspection year" means the period on and after May 1 of one year through April 30 of the following year. The inspection year shall be named for the calendar year in which the inspection year ends.

(ee) "Inundation area" means the area below a dam that will be inundated with water as determined by conducting a breach analysis meeting the requirements specified in K.A.R. 5-40-24.

(ff) "Invert" means the lowest point on the inside of the outlet of a conduit.

(gg) "Low-flow augmentation works" means any uncontrolled conduit, orifice, or other appurtenant works that slowly release water from storage in a reservoir, or bypass low flow through a reservoir.

(hh) "Low-impact dams" means all of the following classes of dams:

(1) Size classes 1, 2, and 3, hazard class A dams; and

(2) size classes 1 and 2, hazard class B dams, using the definitions of hazard class and size class in K.A.R. 5-40-20 and K.A.R. 5-40-21.

(ii) "Maintenance" means the actions or upkeep performed on a dam or its appurtenances to compensate for wear and tear on the dam and appurtenances and to preserve the dam and appurtenances so that the dam and appurtenances function properly until they are removed, including woody vegetation control; grass seeding; burrowing animal control; repair of minor erosion, cracks, animal burrows, and minor settling; care

of pipes, piezometers, drains, valves, gates, and other mechanical devices; replenishment of riprap; and removal of debris from spillways.

(jj) “Modification” means any change in a dam or its appurtenances that involves a change to or significant disturbance of the embankment, an alteration of the flow characteristics of a spillway, a change in the storage capacity or freeboard, or any other significant alteration in the functioning of the dam.

(kk) “Navigable stream” means any of the following:

- (1) The Arkansas river;
- (2) the Missouri river; or
- (3) the Kansas river.

(ll) “One percent-chance storm” means a rainfall event that has a one percent chance of being equaled or exceeded one or more times in a year.

(mm) “Owner of a dam” means the owner or owners of the land upon which a dam and appurtenant works are constructed unless an easement authorizes another person or entity to construct and maintain a dam on that easement. With such an easement, the holder of the easement shall be considered to be the owner of the dam.

(nn) “Perennial stream” means a stream, or part of a stream, that flows continuously during all of the calendar year, except during an extreme drought.

(oo) “Permanent pool” means the storage space in a reservoir below the elevation of the lowest uncontrolled spillway, not including any low-flow augmentation works. This term is also known as the “normal pool.”

(pp) “Permit” means the consent or other formal document issued by the chief engineer that authorizes the construction, repair, or modification of a dam, channel change, or stream obstruction, and its operation and maintenance.

(qq) “PMP” means the probable maximum precipitation that can occur in a precipitation event as prescribed by K.A.R. 5-40-31.

(rr) “Prejurisdictional dam” means any of the following:

- (1) A dam constructed before May 28, 1929;
- (2) a dam constructed by an agency or political subdivision of state government, other than a county, city, town, or township, before April 11, 1978; or
- (3) a dam constructed before July 1, 2002 that is 25 or more feet in height and impounds less than 30 acre-feet of water at the top of the dam.

(ss) “Primary spillway” means the uncontrolled

outlet device through a dam that provides the initial outlet for storm flows, usually consisting of either of the following:

- (1) A riser structure in combination with an outlet conduit; or
- (2) a canopy or hooded inlet structure in combination with an outlet conduit.

This term is also known as a “principal spillway.”

(tt) “Rainfall excess” means that part of the rain in a given storm that falls at intensities exceeding the infiltration capacity of the land and that is the volume of the rain available for direct runoff.

(uu) “Reservoir” means the area upstream from a dam that contains, or can contain, impounded water.

(vv) “Repair” means any action, other than maintenance, taken to restore a dam and its appurtenant works to their original permitted condition.

(ww) “Service spillway” means an open-channel spillway constructed over or around a dam embankment to convey safely past the dam all flows entering the reservoir that cannot be stored in the reservoir behind a dam that does not have a primary spillway.

(xx) “Size factor” means the effective height of the dam, expressed in feet, multiplied by the effective storage of the reservoir, expressed in acre-feet.

(yy) “Stilling basin” means an open structure or excavation at the outlet of a spillway that dissipates the energy of fast-moving water being discharged from the spillway to protect the streambed below a dam from erosion.

(zz) “Stream” means any watercourse that has a well-defined bed and well-defined banks and that has a watershed above the point marking the site of the project that exceeds the following number of acres in the zones specified:

(1) Zone three: 640 acres for all geographic points within any county west of a line formed by the adjoining eastern boundaries of Phillips, Rooks, Ellis, Rush, Pawnee, Edwards, Kiowa, and Comanche counties;

(2) zone two: 320 acres for all geographic points within any county located east of zone three and west of a line formed by the adjoining eastern boundaries of Republic, Cloud, Ottawa, Saline, McPherson, Reno, Kingman, and Harper counties; and

(3) zone one: 240 acres for all geographic points within any county located east of zone two.

The flow of a stream is not necessarily continuous and can occur only briefly after a rain in the watershed. If the site of the project has been altered so that a determination of whether the well-defined bed and banks did exist is not possible, it shall be presumed that the bed and banks did exist if the watershed acreage criteria specified in this subsection have been met, unless the owner of the project conclusively demonstrates that the well-defined bed and banks did not exist when the project site was in its natural state and had not been altered by human activity.

(aaa) "Stream obstruction" means any project or structure that is wholly or partially placed or constructed in a stream and that does not meet the definition of a dam in K.S.A. 82a-301 and amendments thereto.

(bbb) "Time of concentration" means the time required for runoff to flow from the hydraulically most distant point in the watershed to the watershed outlet once the soil has become saturated and minor depressions have been filled.

(ccc) "Trash rack" means a protective device installed on the inlet of a primary spillway to prevent trash and other debris from obstructing the primary spillway without obstructing the flow of water.

(ddd) "Watershed" means all of the area draining toward a selected point on a stream.

(eee) "Wing dike" means an earthen or rock structure below the toe of a dam that is constructed to protect the embankment from erosion.

(fff) "Zone," in an earthen dam, means a segment of earthen fill containing similar materials.

(ggg) "Zoned fill" means an embankment divided into two or more zones to make the best use of available materials. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 1, 1983; amended May 1, 1987; amended, T-5-12-30-91, Dec. 30, 1991; amended Feb. 17, 1992; amended Sept. 22, 2000; amended May 18, 2007.)

5-40-2. Dams; plans and specifications.

The plans required by K.S.A. 82a-302, and amendments thereto, to construct, repair, or modify a dam shall include sufficient views to show all features in three dimensions and in sufficient detail to instruct a competent contractor to construct, repair, or modify the dam by viewing the plans and specifications. All plans with multiple pages shall include an index describing the location of required views within the plans. The

views and maps specified in this regulation shall be shown. Specific details shall be listed under the view that is typically most appropriate, but they may be displayed on another view to improve the legibility of the plans if sufficient detail is provided in the plans to describe each feature in three dimensions. The required plans shall include the following:

(a) Plan views of the dam and dam site, which shall include both abutments of the dam, the area downstream to the point where the auxiliary spillway or service spillway flows enter the receiving channel, and the area upstream of the upstream toe of the dam to where the borrow area will be permitted. All elevations shown on plans shall be referenced to the same datum as the benchmarks described on the plans. The following details shall be shown, if applicable:

(1) The location of the axis of the dam, showing stationing and top width limits;

(2) the toe of the upstream and downstream slopes;

(3) the location of the centerline and the limits of each open-channel spillway;

(4) the location of the primary spillway and any stilling basin;

(5) the location of each berm;

(6) the location of slope protection;

(7) the location of borings, test holes, and test pits;

(8) the location of intakes, outlets, valves, and valve wells;

(9) the location, description, and elevation of each benchmark;

(10) the location, description, and details of all foundation drains;

(11) the location and limits of each borrow area; and

(12) the location and topography of the area where the auxiliary spillway discharge returns to the receiving stream;

(b) a map of the drainage pattern above and below the dam site drawn to an appropriate scale. The map shall show the following:

(1) The location of the watercourse across which the dam is to be built and the point where the centerline of the dam crosses the centerline of the stream specified in latitude and longitude, or in feet north and west of the southeast corner of the section;

(2) the location of the dam and the outline of the reservoir;

(3) the boundary of the watershed, shown by a

line enclosing the entire area that will drain into the reservoir;

(4) section lines, with sections properly identified; and

(5) the size of the drainage area in acres or square miles;

(c) a topographic map of the dam site and reservoir area, which shall be shown to a scale that provides sufficient detail to clearly show the required features and to locate them in the field, but in no case is less than 1 to 3,600. The elevation of each contour shall be clearly noted on the map. The following details shall be shown:

(1) The location of the dam; and

(2) the following topography:

(A) The contours at two-foot intervals. For dams more than 20 feet in height, contours may be spaced at greater intervals, but the interval shall not exceed four feet;

(B) the contour equivalent to the elevation of the lowest uncontrolled spillway inlet, not including any low-flow augmentation works;

(C) the contour equivalent to the maximum water surface reached during the design storm;

(D) the contour equivalent to the elevation of the top of the dam;

(E) construction ingress and egress routes to the dam and reservoir;

(F) the name and address of each person owning any of the following:

(i) The land on which the dam and its appurtenances, including the auxiliary spillway or service spillway, down to the location where the spillway discharges back to the receiving stream, will be constructed;

(ii) ingress and egress routes to the dam and reservoir;

(iii) the reservoir site up to the top of the dam elevation; and

(iv) the borrow areas if they are located outside the reservoir site;

(G) if the reservoir area is divided between more than one landowner, the property lines, which shall be shown on the topographic map of the reservoir;

(H) roads, railroads, pipeline crossings, and any other prominent features in the vicinity;

(I) the boundary line for each easement; and

(J) the limits of each borrow area;

(d) the cross-section view of the valley at the dam site, which shall be shown along the centerline of the dam with the same stationing as that

used on the plan view. The following shall be shown:

(1) The elevation to which the top of the dam is to be maintained and the elevation to which the dam is to be initially constructed in order to provide an adequate settlement allowance;

(2) the location and elevation of the auxiliary spillway or service spillway at the centerline of the dam;

(3) the original surface of the ground, including the streambed, up to the elevation of the top of the dam;

(4) the proposed elevations of the bottom of the cutoff trench; and

(5) the location of all test holes and the materials encountered in the test holes;

(e) a cross-section view perpendicular to the centerline of the dam at the lowest point on the downstream toe extending to the limits of the fill being placed. If the cross section is variable, a typical section shall be shown for each reach of similar cross section with a proper description of the reach by stationing. Additional typical cross sections along the centerline of the primary spillway and the centerline of any other outlets shall be shown. Cross sections of the dam shall include the following:

(1) The elevations of the shoulders and centerline of the dam and the width of the top of the dam;

(2) the elevation of the top of any berm, the elevation of the outside shoulder of any berm, and the top width of any berm;

(3) the slopes of upstream and downstream faces of the dam;

(4) the elevation, location, and type of slope protection;

(5) the zones of the embankment;

(6) the dimensions to which the dam is to be constructed to provide an adequate allowance for settlement;

(7) the elevation, location, and dimensions of the planned cutoff trench; and

(8) the elevation of the downstream toe of the dam at its lowest point;

(f) the following information concerning each open-channel spillway:

(1) A plan view showing the location and stationing along the centerline of the spillway, together with the location of the control section;

(2) cross sections showing side slopes and dimensions of the spillway, and the original surface

of the ground up to the point where the spillway sides intersect the original ground surface;

(3) a profile along the centerline of the spillway, extending from the point upstream where the profile of the spillway intersects natural ground through the control section to the streambed below the dam. The stationing on the profile shall correspond to that on the plan view. The station and elevation of the breaks in the grade of the spillway shall be shown. This profile shall show the existing ground elevation, proposed grade of the bottom of the spillway, elevation of slope protection on the side slopes, and geologic logs of the borings required in the auxiliary spillway or service spillway by K.A.R. 5-40-40, superimposed on the profile through which the spillway is excavated; and

(4) the data necessary to stake out any curves;

(g) the following information concerning the primary spillway:

(1) The profile along the centerline of the spillway, extending from the intake to the outlet, showing the size, dimensions, and locations of seepage control features. This profile shall show existing ground elevations and the proposed grade of the spillway;

(2) the plan, profile, and cross-section views of the stilling basin, primary spillway supports, and other features;

(3) the geologic logs of the borings done in the vicinity of the primary spillway shall be superimposed on the profile;

(4) the location and type of all bedding materials;

(5) a table of pipe grades for all concrete pipes; and

(6) conduit joint details;

(h) the number of acres enclosed by each contour within the reservoir area and the total storage capacity of the reservoir in acre-feet at the elevation of each contour, which shall be determined and tabulated on the plan. The data shall be compiled for all contours in the reservoir up to the elevation of the top of the dam. Computations of capacity shall be based on the natural topography of the reservoir basin but may include the volume of any excavation in the reservoir made during construction of the dam;

(i) a curve or table showing the discharge capacities, in cubic feet per second, of all spillways through a range of surface water elevations from the lowest spillway inlet elevation to the top of the

dam elevation, which shall be developed and shown on the plans or in the design report;

(j) the following information, which shall be shown on the plans in plan view, profile, and cross section:

(1) Drain details, including foundation drains;

(2) permanent erosion control protection, including riprap; and

(3) details of stilling basins, outlets, and other appurtenant structures; and

(k) the following information, which shall be shown on either the plans or the specifications:

(1) A table of gradation for each drain; and

(2) a table of gradation of the bedding of the riprap. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 1, 1983; amended May 1, 1985; amended May 1, 1987; amended May 18, 2007.)

5-40-2a. Benchmarks. (a) At least two permanent benchmarks shall be installed for future reference at each dam. Each benchmark shall be located according to the following criteria:

(1) In an area where the benchmark will not be disturbed, destroyed, or inundated after the dam is complete; and

(2) along the centerline of the dam on either end of the dam, if practical, and in undisturbed soil.

(b) On high-impact dams, each permanent benchmark shall also meet the following criteria:

(1) Be installed in a hole that meets the following criteria:

(A) Is 12 inches in diameter; and

(B) is at least 42 inches deep or is drilled to bedrock, whichever is less;

(2) be constructed of one or more steel reinforcing bars at least $\frac{3}{8}$ inch in diameter and 36 inches in length or the length of the depth of the hole, whichever is less. The reinforcing bar or bars shall be placed in the hole and the hole backfilled with concrete rounded off flush with the ground;

(3) be capped by a metal survey marker; and

(4) be either marked by a witness post or survey marker sign or tied to at least two objects in the vicinity by distance and bearing.

(c) On low-impact dams, each permanent benchmark shall also meet the following minimum requirements:

(1) Be constructed of a reinforcing bar that is 36 inches long, one-half inch in diameter, and driven flush with the surface of the ground;

(2) be installed at a location protected from grazing animals and vehicular traffic; and

(3) be either marked by a witness post or survey marker sign or tied to at least two objects in the vicinity by distance and bearing.

(d)(1) The elevation and horizontal location of each permanent benchmark shall be shown on the as-built drawings or the construction inspection report. The location of each permanent benchmark shall be described in reference to centerline stationing and offset from the centerline. The elevation of each permanent benchmark for all of the following classes of dams shall be referenced to the national geodetic vertical datum of 1988, or other acceptable national vertical datum, to a tolerance of plus or minus 0.5 foot:

(A) Class size two, hazard classes B and C;

(B) class size three dams; and

(C) class size four dams.

(2) The elevation of each benchmark for class sizes one and two, hazard class A dams may be referenced to an assumed datum.

(e) Horizontal control shall be referenced to the Kansas state plane coordinate system as set forth in K.S.A. 58-20a01 et seq., and amendments thereto. The location of each benchmark shall be shown on the as-built drawings or the notice of completion by using either of the following:

(1) The plane coordinate values consisting of a northing and an easting from the appropriate monumented point according to K.S.A. 58-20a03, and amendments thereto; or

(2) the feet distances north or south, and east or west, from the nearest or most convenient section corner. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-2b. Design reports. (a) The application for each permit to construct, repair, or modify a dam shall be accompanied by a design report prepared by the engineer who designed the new dam or the repair or modification of an existing dam. The design report shall document every major design element of the dam, the conditions that must be addressed in the construction of the project, and the manner in which those conditions will be addressed. The design report shall document the design process, including references to each design method and computer program utilized in the design, and shall include the following:

(1) The design of any slope protection for the embankment and the auxiliary or service spillway.

If no slope protection is provided, the report shall provide justification for not having slope protection;

(2) documentation of the determination of the hazard class;

(3) a report of the geotechnical investigation, including the results of the testing required in K.A.R. 5-40-40 through K.A.R. 5-40-42, and all boring logs not shown on the plans;

(4) documentation of the embankment design based upon the geotechnical investigation;

(5) documentation of the hydrological evaluation, including the determination of the composite curve number and drainage area;

(6) if a proposed dam is part of a general plan, the report shall evaluate whether the proposed dam conforms to the general plan;

(7) the design of the foundations, including the proposed depth of the cutoff trench;

(8) the design of the drains, including size, material gradation, interface with soil, and outlets;

(9) the design of the pipe bedding, including documentation that the loading and deflection conditions are met;

(10) the stilling basin design;

(11) documentation of the flood routing or routings;

(12) the gradation of the material in the diaphragm and the design of the diaphragm; and

(13) any other relevant information required by the chief engineer.

(b) In addition to those items required in subsection (a), the design report for each high-impact dam shall include the following:

(1) The auxiliary spillway or service spillway analysis required by K.A.R. 5-40-56(c), if applicable, or K.A.R. 5-40-57(a);

(2) a slope stability analysis; and

(3) an embankment settlement analysis. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-3. Specifications. (a) Each applicant shall submit specifications with the application for a permit to construct a dam. The specifications shall address every major element in the construction of the dam and the materials used to construct the dam. The specifications shall be clear, legible, and sufficiently detailed to ensure that the dam and appurtenant works will be properly constructed and shall meet the requirements of sound engineering principles and commonly accepted

engineering practices. The specifications shall state the minimum quality of materials and workmanship that is acceptable and the required materials tests and testing frequency. The specifications shall cover the following:

- (1) The excavation procedures;
- (2) the placement and compaction of earthen fill;
- (3) the dewatering process;
- (4) concrete and reinforcing steel requirements and placement;
- (5) the materials for and placement of all conduits;
- (6) the materials for and placement of permanent erosion control measures;
- (7) drains and seepage control, including aggregate requirements; and
- (8) seeding and fencing.

The specifications shall also include an index. The specifications may be submitted electronically in a form and manner prescribed by the chief engineer.

(b) A copy of the plans and specifications that have been approved by the chief engineer shall be accessible at the construction site at all times during construction. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 1, 1983; amended May 1, 1987; amended May 18, 2007.)

5-40-4. Preparer of maps, plans, profiles, reports, and specifications. In addition to the requirements of the Kansas state board of technical professions, the requirements in this regulation shall apply. (a) Each map, plan, profile, report, and specification submitted to the chief engineer for approval shall be prepared by, or under the supervision of, a person who is competent in the design and construction of channel changes or stream obstructions, as appropriate.

(b) Maps, plans, profiles, reports, and specifications for any dam shall be prepared by, or under the supervision of, a licensed professional engineer who is competent in the design and construction of dams.

(c) Maps, plans, profiles, reports, and specifications for any channel change or stream obstruction project on a navigable stream or a stream having a mean annual flow of 100 cubic feet per second or more at the proposed location of the project shall be prepared by a licensed profes-

sional engineer who is competent in the design of that type of project.

(d) No provision of this regulation, and no decision made by the chief engineer pursuant to this regulation, shall alter the responsibilities or duties of any licensee of the Kansas state board of technical professions to comply with that board's requirements. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 1, 1983; amended May 1, 1986; amended May 1, 1987; amended Sept. 22, 2000; amended May 18, 2007.)

5-40-5. Determining the capacity of a reservoir. (a) The capacity of each proposed reservoir shall be determined as specified in K.A.R. 5-40-2(h).

(b) The capacity of each existing reservoir shall be determined by using the procedure specified in K.A.R. 5-40-2(h) for contours above the water surface. The engineer determining the reservoir capacity shall demonstrate the validity of the method that the engineer selects to extrapolate the data for contours below the water surface. The capacity of an existing reservoir shall not be reduced by including the accumulated sediment. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301 and 82a-303a; effective May 1, 1983; amended May 18, 2007.)

5-40-5a. Determining the height of a dam or barrier. To determine the height of a dam or barrier pursuant to K.S.A. 82a-301(b) and amendments thereto, that measurement shall be made as follows: (a) The height of a dam or barrier that extends across the natural bed of a stream or watercourse shall be the vertical distance measured from the bed of the stream or watercourse at the downstream toe of the dam or barrier to the lowest elevation on the top of the dam or barrier, excluding any open-channel spillway and any anomalous low points.

(b) The height of a dam or barrier that does not extend across the natural bed of a stream or watercourse shall be the vertical distance measured from the lowest elevation of the outside limit of the dam or barrier to the lowest elevation on the top of the dam or barrier, excluding any open-channel spillway and any anomalous low points.

(c) The height of a proposed barrier or dam shall be measured from the planned top of the dam, excluding any allowance for settlement. (Authorized by K.S.A. 2006 Supp. 82a-303a; imple-

menting K.S.A. 2006 Supp. 82a-301 and 82a-303a; effective May 18, 2007.)

5-40-6. Waiver and stricter requirements. (a) The chief engineer may waive any of the regulations adopted under articles 40, 41, 42 and 43 if it is shown to the satisfaction of the chief engineer that the waiver of the regulation will not pose a hazard to the public safety and that the waiver is in the public interest.

(b) The chief engineer may also invoke any jurisdiction granted by statute and impose stricter requirements than required by rules and regulations where such jurisdiction or additional requirements are necessary to protect the public interest, protect the public safety or prevent damage to property. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1983; amended May 1, 1987.)

5-40-7. Other maps, plans, profiles, data and specifications. The applicant shall also submit any other maps, plans, profiles and specifications of the dam, channel change or obstruction and any other data which the chief engineer may require. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1983; amended May 1, 1987.)

5-40-8. Acceptable application. (a) To be acceptable for filing, each application for a permit to construct, modify, or repair a dam, other stream obstruction, or channel change shall be accompanied by the statutorily required filing fee and shall contain all of the following:

(1) One copy of the completed application on a form prescribed by the chief engineer and signed by the applicant;

(2) two copies of the maps, plans, specifications, and profiles for a proposed or existing dam that meet the requirements of these regulations or one copy of the maps, plans, specifications, and profiles for any other stream obstruction or channel change that meet the requirements of these regulations; and

(3) for a proposed or existing dam, one copy of the design report that meets the requirements of these regulations.

(b) If the applicant fails to meet the requirements of subsection (a), the applicant shall be notified by the chief engineer of the deficiencies in writing and given 60 days from the time the notice is postmarked to submit the required items. If the required items are not submitted within 30 days

after the chief engineer's notice is postmarked, a reminder letter shall be sent to applicant again requesting the required items.

(c) Any applicant may submit a request for an extension of time to provide a complete application. The applicant shall submit the request for extension of time before the deadline to submit the items. The request shall also include a justification for the extension of time and an estimate of the time needed to submit the required items.

(d) If the required items are not submitted within 60 days after the chief engineer's notification of deficiency, or within any authorized extension of time, the application shall be dismissed and the application fee forfeited.

(e) If the dismissed application was for the construction, repair, or modification of an existing illegal, unpermitted dam, the removal of the dam shall be ordered by the chief engineer.

(f) If an application is dismissed pursuant to this regulation, within 30 days of the date of dismissal the applicant may apply to have the application reinstated. The application may be reinstated by the chief engineer for good cause shown by the applicant. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301, 82a-302, and 82a-303a and K.S.A. 82a-303c; effective May 1, 1983; amended May 18, 2007.)

5-40-9. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1983; amended May 1, 1985; amended May 1, 1986; revoked May 18, 2007.)

5-40-10. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1984; amended May 1, 1985; amended May 1, 1986; revoked May 18, 2007.)

5-40-11. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302 and 82a-303; effective Sept. 22, 2000; revoked May 18, 2007.)

5-40-12. As-built drawings. (a) Each permit shall be conditioned by the chief engineer to require as-built drawings for each category listed in subsection (b) to be submitted within 90 days of the completion of the dam, repairs, or modifications, or any extension of time authorized by the chief engineer for good cause. The drawings shall be prepared by a person qualified to prepare the original plans and specifications pursuant to K.A.R. 5-40-4.

(b) As-built drawings shall be submitted for each of the following categories:

- (1) All high-impact dams;
- (2) any dam, if required by the chief engineer as a condition of the permit to build, repair, or modify the dam; and
- (3) any dam, if required by the chief engineer as the result of an approval of a change in the approved plans requested by the applicant during construction.

(c) The as-built drawings shall show all the features of the structure included in the approved plans as those features were constructed. A legibly marked-up copy of the approved plans shall be acceptable as as-built drawings.

(d) A profile of the bottom of the cutoff trench as constructed shall be shown on the as-built drawings. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 82a-303 and 82a-303a; effective May 1, 1987; amended May 18, 2007.)

5-40-13. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987; revoked May 18, 2007.)

5-40-14. Testing a principal spillway pipe installation in a dam; applicability. (a) For the purpose of testing the leakage rate of principal spillway pipe installation in a dam, an applicant shall conduct a static pressure test of each principal spillway installation constructed of corrugated metal pipe.

(b) A static pressure test shall be required only of a principal spillway installation made of corrugated metal pipe, unless the chief engineer determines that testing principal spillway pipe made of other materials or testing other pipes used in the construction of dams is necessary to protect public safety, life, or property. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303b; effective Sept. 22, 2000.)

5-40-15. Testing a principal spillway pipe installation in a dam; general procedures. The following general procedures shall apply to all static pressure tests required by K.A.R. 5-40-14: (a) The applicant shall conduct the test before backfilling around and over the principal spillway pipe and after laying the pipe on the grade line and connecting the pipe according to the approved plans and the manufacturer's requirements.

(b) The applicant, the applicant's representative, or the contracting officer shall make arrangements for the chief engineer, or a person design-

nated by the chief engineer, to be present during the test.

(c) The applicant shall place a watertight plug in the downstream end of the pipe. The plug shall be sufficient to withstand a pressure of three pounds per square inch for the duration of the test. The plug shall be equipped with an acceptable means of draining the water out of the pipe after completion of the test.

(d) The applicant shall fill the pipe with water up to an elevation of 10 feet above the flow line at the pipe outlet, or up to the principal spillway inlet elevation, whichever is less, unless a different elevation is required by the test method described in K.A.R. 5-40-16(b).

(e) The applicant shall note the exact elevation of the water surface at the time the test begins. At the end of the prescribed test duration, the applicant shall measure the water surface elevation.

(f) The applicant shall use one of the test methods described in K.A.R. 5-40-16 to determine whether the water leakage rate is acceptable.

(g) If the leakage rate determined by either of the methods described in K.A.R. 5-40-16 is not acceptable, the applicant shall determine the source of the leakage and correct the leakage. After correction, the applicant shall perform another test in accordance with K.A.R. 5-40-15 and K.A.R. 5-40-16.

(h) If the leakage rate determined by either of the methods described in K.A.R. 5-40-16 is acceptable, the applicant shall drain and backfill the pipe in the manner prescribed by the approved plans and specifications. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303b; effective Sept. 22, 2000.)

5-40-16. Testing a principal spillway pipe installation in a dam; allowable leakage rate, test methods. The allowable leakage rate for a principal spillway pipe installation in a dam shall not exceed 1,000 gallons per inch diameter of pipe per mile of pipe per day. The applicant shall use one of the following test methods in determining whether the allowable leakage rate has been exceeded:

(a) The applicant shall use the following test method procedure for a drop inlet structure if the starting and ending elevation of the water is within the vertical drop structure and above the top of the barrel:

- (1) Calculate the allowable leakage rate in gal-

lons per minute for the pipe being tested based on the following formula:

The allowable leakage rate in gallons per minute = $0.000132 \times d \times l$ where:

d = diameter of the tested pipe in inches

l = length of the tested pipe in feet

If the allowable leakage rate in gallons per minute is determined to be less than one, then it shall be assumed for the purposes of the test that the allowable leakage rate in gallons per minute is one.

(2) Conduct the test for 15 minutes.

(3) If the allowable leakage rate is one gallon per minute, the applicant may use the following table to determine the allowable drop in the elevation of the water in the riser.

Nominal diameter of riser (inches)	Allowable drop (feet)
18	1.13
20	0.83
24	0.64
30	0.41
36	0.28

(4) If the measured drop in the riser exceeds the corresponding allowable drop in paragraph (a)(1) above, the allowable leakage rate has been exceeded, which shall not be acceptable. If the measured drop in the riser is less than or equal to the corresponding allowable drop in paragraph (a)(1) above, the allowable leakage rate has not been exceeded and shall be acceptable.

(b) The applicant shall use the following test method procedure for all other types of installations, including canopy inlets:

(1) If filling the pipe with water up to an elevation of 10 feet above the outlet puts water within the vertical riser below the top of the barrel, the elevation shall be reduced below the bottom of the vertical riser before the test begins.

(2) The allowable drop in elevation is a function of the allowable leakage rate, test duration, and the diameter and slope of the pipe. The allowable drop in the pipe in feet shall be calculated by use of the following formula:

$$\frac{\text{allowable rate (gallons per minute)} \times \text{test duration (minutes)} \times \text{slope (\%)}}{[\text{diameter (inches)}]^2 \times 4.08}$$

(3) The minimum test duration shall be 15 minutes. If the above formula results in an allowable drop of less than 0.1 foot in 15 minutes, the test duration shall be extended so that the allowable drop is greater than 0.1 feet.

(4) The water surface elevation drop shall be measured by means of a clear plastic tube installed in the plug at the downstream end of the principal spillway pipe. Any other means of measuring the drop in elevation shall be approved by the chief engineer in advance of the test.

(5) If the measured drop is greater than the allowable drop as calculated in paragraph (b)(2), the allowable leakage rate has been exceeded, which shall not be acceptable. If the allowable drop is less than or equal to the allowable drop as calculated in paragraph (b)(2), the allowable leakage rate has not been exceeded, which shall be acceptable. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303b; effective Sept. 22, 2000.)

5-40-20. Hazard classes of dams.

(a) The hazard classes of dams shall be determined from the following based on the location of the dam, the hazards found within the inundation area, and the impact of a failure of a dam:

(1) A “hazard class A dam” shall mean a dam located in an area where failure could damage only farm or other uninhabited buildings, agricultural or undeveloped land including hiking trails, or traffic on low-volume roads that meet the requirements for hazard class A dams as specified in subsections (b) and (c).

(2) A “hazard class B dam” shall mean a dam located in an area where failure could endanger a few lives, damage an isolated home, damage traffic on moderate-volume roads that meet the requirements for hazard class B dams as specified in subsections (b) and (c), damage low-volume railroad tracks, interrupt the use or service of a utility serving a small number of customers, or inundate recreation facilities, including campground areas intermittently used for sleeping and serving a relatively small number of persons.

(3) A “hazard class C dam” shall mean a dam located in an area where failure could result in any of the following:

(A) Extensive loss of life;

(B) damage to more than one home;

(C) damage to industrial or commercial facilities;

(D) interruption of a public utility serving a large number of customers;

(E) damage to traffic on high-volume roads that meet the requirements for hazard class C dams as specified in subsections (b) and (c) or a high-volume railroad line;

(F) inundation of a frequently used recreation facility serving a relatively large number of persons; or

(G) two or more individual hazards described in hazard class B.

(b) If there is a road across any part of the embankment or a spillway, including the auxiliary spillway or service spillway channel down to the receiving stream, the daily vehicular traffic shall be considered in determining the hazard classification, in addition to the criteria specified in subsection (a). The hazard classifications specified in this subsection shall be used if these classifications are more stringent than the hazard classifications required by subsection (a).

Hazard class	Vehicles per day
A	0 through 100
B	101 through 500
C	more than 500

(c) If any road in the inundation area does not meet the criteria of subsection (b), the daily vehicular traffic shall be considered in determining the hazard classification, in addition to the criteria specified in subsection (a). The hazard classifications specified in this subsection shall be used if these classifications are more stringent than the hazard classifications otherwise required by subsection (a).

Hazard class	Vehicles per day
A	0 through 500
B	501 through 1,500
C	more than 1,500

(Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-21. Class sizes of dams. (a) Each dam that the chief engineer has authority to regulate pursuant to K.S.A. 82a-301 et seq., and amendments thereto, with an effective height of less than 25 feet and an effective storage of less than 50 acre-feet shall be considered to be a class size 1 dam. The class size of all other dams shall be determined from the following table:

Class size	Size factor
2	less than 3,000
3	3,000 through 30,000
4	more than 30,000

(b) Each existing permitted dam and each dam for which an application was submitted before the effective date of this regulation shall continue to

have the effective height measured from the flow line of the stream at the centerline of the dam. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-22. Design requirements for construction of a dam. Each dam constructed shall meet or exceed the design requirements specified in the table in this regulation. The minimum top of the dam elevation shall be the maximum water surface elevation determined by routing the design storm specified in the following table, using the methodology specified in K.A.R. 5-40-30 through K.A.R. 5-40-33, through the reservoir and the dam's spillways, plus the minimum freeboard shown in the following table. The minimum floor width of the open-channel spillway shall be the minimum floor width shown in the following table.

Dam size class	Hazard class	Precipitation for design storm	Minimum freeboard in feet	Minimum floor width of open-channel spillway in feet
1	A	2% chance	1	20
	B	0.25 PMP	2	
	C	0.40 PMP	3	
2	A	1% chance	2	30
	B	0.25 PMP	2	
	C	0.40 PMP	3	
3	A	1% chance	3	40
	B	0.30 PMP	3	
	C	0.40 PMP	3	
4	A	0.25 PMP	3	40
	B	0.30 PMP	3	
	C	0.40 PMP	3	

(Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-23. Detention storage. (a) To determine the minimum required detention storage, the applicant shall show that the computed runoff from the detention storm can be stored in the reservoir and discharged through the primary spillway without any flow being discharged through

the auxiliary spillway. The elevation of the auxiliary spillway control section shall be set so that the computed runoff from the detention storm specified in the following table and determined from the procedures in K.A.R. 5-40-30 through K.A.R. 5-40-33 does not result in discharge through the auxiliary spillway.

Hazard class	Size	Purpose	Minimum detention storm
A	1, 2	Flood control	4% chance
A	3	Flood control	4% chance
A	4	Flood control	2% chance
Hazard class	Size	Purpose	Minimum detention storm
B	All	Flood control	2% chance
C	All	Flood control	2% chance
A	1, 2	All uses other than flood control	50% chance
A	3	All uses other than flood control	50% chance
A	4	All uses other than flood control	20% chance
B	All	All uses other than flood control	20% chance
C	All	All uses other than flood control	20% chance

Each dam that has flood control as a purpose shall meet the detention storm requirements for a flood control structure. A dam that is not constructed for flood control purposes and whose auxiliary spillway meets the requirements for a service spillway in K.A.R. 5-40-57 shall not be required to meet any minimum detention storm requirement in the table in this subsection.

(b) Each dam shall have a primary spillway and an auxiliary spillway, unless a service spillway meeting the requirements of K.A.R. 5-40-57 is provided. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-24. Dam breach analysis. A dam breach analysis shall be conducted on each proposed dam as specified in this regulation. If a dam breach analysis is required for an existing dam, the analysis shall be conducted in the same manner as that specified in this regulation for a proposed dam. (a) To determine the appropriate water surface elevation in the reservoir when the breach begins, the breach analysis shall route the appropriate design duration one percent-chance storm determined by K.A.R. 5-40-31 through the reservoir. The routing shall begin by assuming that the water surface elevation is at the elevation of the lowest uncontrolled spillway inlet, not including any low-flow augmentation works. The antecedent moisture condition (AMC) used to determine the runoff shall be determined according to

K.A.R. 5-40-32. The minimum water surface elevation used to begin the breach analysis shall be the greater of the following:

- (1) The water surface elevation determined by routing the required design duration one percent-chance storm through the reservoir; or
- (2) the elevation of the crest of the auxiliary spillway.

Routing the storm through the reservoir may account for the discharge of the primary spillway and any open-channel spillways. If the dam does not have an open-channel spillway, the water surface elevation used shall be the elevation of the top of the dam or the elevation resulting from using PMP as the runoff event, whichever is lower.

(b) The breach discharge shall be determined by using the peak breach discharge criteria section on pages 1-1 through 1-2 in "earth dams and reservoirs," TR-60, dated July 2005, published by the conservation engineering division of the natural resources conservation service, and hereby adopted by reference, unless the applicant receives written approval of the chief engineer to use a model that is more appropriate for a particular dam. The breach discharge hydrograph shall be determined by methods in NRCS TR-66, third edition, "simplified dam-breach routing procedure," dated September 1985, which is hereby adopted by reference, including the appendices. If another model is used, the following breach modeling assumptions shall be used, unless the applicant demonstrates to the chief engineer that more appropriate assumptions should be used:

(1) The parameters shall support the assumption of a rapidly developing breach that is either an overtopping failure or a spillway failure caused by intense, localized erosion beginning at the downstream end of the auxiliary spillway or service spillway and working its way upstream.

(2) If the breach model has breach width as a variable, the minimum bottom width of the breach shall be twice the height of the dam. If there is a well-defined physical floodplain, the height of the dam may be measured from the top of the low bank of the stream to the top of the dam for the purpose of determining the minimum breach width.

(3) If the side slopes of the breach are a parameter of the model, vertical side slopes shall be used.

(4) If the breach model has breach time as a variable, the maximum breach time shall be one minute per foot of height of the dam.

(c) The breach discharge shall be routed downstream using a hydraulic flow model in accordance with sound engineering principles and commonly accepted engineering practices. An unsteady state hydraulic flow model shall be used if it is necessary to model existing hydraulic structures in the inundation area. In all other instances, a steady state hydraulic flow model may be used.

(d) The inundation area analyzed shall meet both of the following requirements:

(1) Be from the downstream toe of the dam and the control section of any open-channel section of any open-channel spillway, downstream to the point where the crest of the breach wave intersects the flood level of the peak discharge of the one percent-chance storm, assuming that the dam was not in place; and

(2) be analyzed to the point at which there are no more hazards downstream.

The peak discharge of the one percent-chance storm may be determined by any of the methods provided in K.A.R. 5-42-5 or the appropriate published flood insurance study for the stream receiving the discharge from the breach of the dam.

(e) If there is more than one dam on a stream, it shall be assumed that the most upstream dam is breached first and that the peak flow of that breach arrives at the next downstream dam at the same time the peak water surface elevation from the inflow of the one percent-chance storm from the uncontrolled portion of the lower dam's drainage area occurs. An appropriate model may be used to demonstrate when the peaks will occur for an entire system of dams, in which case the water surface elevation modeled shall be used.

(f) If there are dams on separate tributaries above the dam being analyzed, the modeling assumption specified in subsection (e) shall be applied only to the tributary that has the upstream dam whose breach results in the greatest computed breach discharge at the dam being analyzed.

(g) If digital elevation data is used in the analysis of the breach, the data used shall have a root mean square error of 2.5 meters or less.

(h) Cross sections for modeling purposes shall be taken at appropriate locations, but in no case shall the intervals be greater than 2,640 feet measured along the floodplain of the watercourse. Cross sections shall be generally perpendicular to the direction of flow and the contour lines that the cross sections intersect. Cross sections may be broken into several connected segments as

needed to meet the requirements of this subsection.

(i) Each bridge and any other hydraulic structure that has a significant hydraulic effect shall be included in the analysis.

(j)(1) The applicant shall submit a contour map of the valley with contour intervals of 10 feet or less and a scale of not less than 1:24,000, which shall show the following:

(A) The inundation area determined from the breach;

(B) the location of each existing hazard; and

(C) each cross section entered in the hydraulic flow model with a label identifying the cross section.

(2) The following items shall be shown on the contour map or on separate documentation:

(A) The elevation of each existing hazard;

(B) the water surface elevation at each existing hazard;

(C) the elevation of the streambed at the point nearest each existing hazard; and

(D) a tabular report including the following information for each cross section:

(i) The label identifying each cross section shown on the map;

(ii) the elevation of the maximum water surface attained during the breach;

(iii) the peak discharge; and

(iv) the computed width of the water surface.

(3) If there are more than 10 hazards in any 2,640-foot reach in the flood inundation area, the information required in paragraph (j)(2) may be noted only for the hazard in that reach that is closest to the maximum water surface elevation measured vertically and the hazard in that reach that is farthest from the maximum water surface elevation measured vertically.

(k) The applicant shall submit one copy of each data file used to perform each analysis in electronic form along with identification of the computer programs used to perform the analysis and any model documentation needed for the chief engineer to review the analysis. (Authorized by K.S.A. 2007 Supp. 82a-303a; implementing K.S.A. 2007 Supp. 82a-302 and 82a-303a; effective May 18, 2007; amended Oct. 3, 2008.)

5-40-26. Request to issue or reconsider hazard class determination. (a)(1) If an owner or applicant does not agree with the hazard classification determined for a dam, the owner or ap-

plicant may file a request for reconsideration of the hazard class determination.

(2) Each request for reconsideration shall be submitted in writing and shall indicate the following:

(A) The owner's or applicant's proposed hazard classification;

(B) the basis of that proposal; and

(C) an explanation of why the owner or applicant believes that the determination of the hazard classification by the chief engineer is incorrect. The request shall also contain documentation and analysis that support the request.

(3) Each request for reconsideration shall be filed with the chief engineer within 15 days after the owner or applicant is served with written notice of the hazard classification by the office of the chief engineer or within any extension of time authorized by the chief engineer in writing.

(b) Each request for reconsideration shall be reviewed by the chief engineer, and a final written determination of the hazard classification shall be made by the chief engineer.

(c) If the chief engineer has not issued a written notice of the hazard classification, the owner or applicant may request a written notice after the owner or applicant has been informed verbally of the proposed hazard classification by the chief engineer. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-30. Time of concentration. (a) Except as specified in subsections (b) and (c), the time of concentration (T_c) shall be determined by using one of the methods specified in chapter 15, "travel time, time of concentration and lag," in the natural resources conservation service (NRCS) national engineering handbook, part 630, dated August 1972, which is hereby adopted by reference.

(b) For drainage areas of not more than three square miles, the time of concentration (T_c) may be determined by use of the Kirpich formula, which is as follows:

$$T_c = \left(\frac{11.9L^3}{H} \right)^{0.385}$$

Where

T_c = the time of concentration, in hours

L = the longest distance that water has to travel in the drainage basin, in miles

H = the maximum elevation difference in the drainage basin, in feet.

(c) In addition to the methods specified in subsections (a) and (b), the applicant may determine T_c based on sound engineering principles and commonly accepted engineering practices if the applicant obtains the prior written consent of the chief engineer. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-31. Design duration rainfall depth.

(a) If the time of concentration is six hours or less, a duration of six hours shall be used for all design storms. The appropriate six-hour storm depth, in inches, shall be selected from the following table.

County	Probability of occurrence in any year					
	50%	20%	4%	2%	1%	PMP
Allen	2.7	3.5	4.8	5.4	6.1	28.0
Anderson	2.7	3.5	4.8	5.3	6.0	27.8
Atchison	2.6	3.4	4.5	5.1	5.7	27.2
Barber	2.4	3.2	4.4	5.0	5.7	27.3
Barton	2.3	3.0	4.1	4.8	5.3	26.6
Bourbon	2.7	3.5	4.8	5.4	6.0	28.1
Brown	2.5	3.2	4.4	5.0	5.6	27.0
Butler	2.6	3.4	4.7	5.3	6.0	27.7
Chase	2.6	3.4	4.6	5.2	5.9	27.5
Chautauqua	2.7	3.5	4.9	5.5	6.2	28.3
Cherokee	2.8	3.6	5.0	5.5	6.2	28.5
Cheyenne	1.8	2.4	3.4	3.8	4.3	24.7
Clark	2.2	3.0	4.1	4.7	5.3	26.7
Clay	2.5	3.2	4.3	5.0	5.5	26.8
Cloud	2.4	3.1	4.2	4.8	5.4	26.6
Coffey	2.7	3.5	4.7	5.3	6.0	27.8
Comanche	2.3	3.1	4.2	4.9	5.5	27.0
Cowley	2.6	3.4	4.8	5.4	6.1	28.0
Crawford	2.8	3.6	4.9	5.4	6.1	28.3
Decatur	1.9	2.6	3.6	4.2	4.6	25.3
Dickinson	2.5	3.2	4.4	5.1	5.6	27.1
Doniphan	2.5	3.2	4.5	5.0	5.6	27.0
Douglas	2.6	3.4	4.6	5.2	5.8	27.5
Edwards	2.2	2.9	4.1	4.7	5.3	26.7
Elk	2.7	3.5	4.8	5.4	6.1	28.1
Ellis	2.1	2.9	3.9	4.6	5.0	26.2
Ellsworth	2.3	3.1	4.2	4.9	5.4	26.7
Finney	2.0	2.6	3.8	4.3	4.8	26.8
Ford	2.1	2.8	4.0	4.6	5.1	26.4
Franklin	2.7	3.5	4.7	5.2	5.9	25.8
Geary	2.5	3.2	4.4	5.1	5.7	27.1
Gove	2.0	2.6	3.7	4.3	4.7	25.7
Graham	2.0	2.7	3.8	4.4	4.8	25.8

County	Probability of occurrence in any year						County	Probability of occurrence in any year																																														
	50%	20%	4%	2%	1%	PMP		50%	20%	4%	2%	1%	PMP																																									
Grant	1.9	2.6	3.7	4.2	4.7	25.6	Rush	2.2	2.9	4.0	4.6	5.1	26.4																																									
Gray	2.0	2.7	3.9	4.4	4.9	26.1	Russell	2.2	2.9	4.1	4.7	5.2	26.5																																									
Greeley	1.8	2.5	3.4	3.9	4.4	25.0	Saline	2.4	3.1	4.3	5.0	5.5	26.9																																									
Greenwood	2.7	3.5	4.8	5.3	6.1	27.8	Scott	1.9	2.6	3.6	4.2	4.7	25.5																																									
Hamilton	1.8	2.5	3.5	4.0	4.5	25.2	Sedgwick	2.5	3.3	4.6	5.2	5.9	27.5																																									
Harper	2.5	3.3	4.5	5.2	5.9	27.5	Seward	2.0	2.7	3.8	4.4	4.9	26.0																																									
Harvey	2.5	3.3	4.5	5.1	5.8	27.4	Shawnee	2.6	3.4	4.6	5.1	5.8	27.4																																									
Haskell	2.0	2.7	3.8	4.3	4.8	25.9	Sheridan	2.0	2.6	3.7	4.2	4.7	25.5																																									
Hodgeman	2.1	2.8	3.9	4.5	5.0	26.3	Sherman	1.8	2.4	3.4	3.9	4.4	24.8																																									
Jackson	2.6	3.4	4.5	5.1	5.7	27.2	Smith	2.2	2.9	3.9	4.6	5.0	26.1																																									
Jefferson	2.6	3.4	4.6	5.1	5.8	27.3	Stafford	2.3	3.0	4.2	4.9	5.4	26.9																																									
Jewell	2.3	2.9	4.0	4.7	5.1	26.3	Stanton	1.9	2.5	3.6	4.1	4.5	25.3																																									
Johnson	2.6	3.4	4.6	5.2	5.8	27.5	Stevens	1.9	2.6	3.7	4.3	4.7	25.8																																									
Kearny	1.9	2.6	3.6	4.1	4.6	25.5	Sumner	2.6	3.4	4.7	5.3	6.0	27.8																																									
Kingman	2.4	3.2	4.4	5.1	5.7	27.3	Thomas	1.9	2.5	3.5	4.1	4.5	25.2																																									
Kiowa	2.2	2.9	4.2	4.8	5.4	26.7	Trego	2.0	2.7	3.8	4.4	4.9	25.9																																									
Labette	2.8	3.6	5.0	5.5	6.2	28.4	Wabaunsee	2.6	3.4	4.5	5.1	5.8	27.3																																									
Lane	2.0	2.7	3.7	4.3	4.8	25.8	Wallace	1.8	2.4	3.4	3.9	4.4	24.9																																									
Leavenworth	2.6	3.4	4.6	5.1	5.8	27.4	Washington	2.4	3.1	4.2	4.9	5.4	26.6																																									
Lincoln	2.3	3.0	4.2	4.8	5.3	26.6	Wichita	1.9	2.5	3.5	4.1	4.5	25.3																																									
Linn	2.7	3.5	4.8	5.3	6.0	27.9	Wilson	2.7	3.5	4.9	5.4	6.1	28.1																																									
Logan	1.9	2.5	3.6	4.1	4.6	25.3	Woodson	2.7	3.5	4.8	5.4	6.1	28.0																																									
Lyon	2.6	3.4	4.6	5.2	6.0	27.5	Wyandotte	2.6	3.4	4.6	5.1	5.8	27.4																																									
Marion	2.5	3.3	4.5	5.2	5.8	27.3	<p>(b) If the time of concentration of the watershed, or any subwatershed being used to develop the inflow hydrograph, is more than six hours, the ratio for the time equal to or greater than the computed time of concentration shall be selected from the following table. Linear interpolation shall be acceptable. That ratio shall be multiplied by the depth of the six-hour rainfall in the table in subsection (a). The resulting depth is the design duration rainfall depth.</p> <table><tr><th colspan="3">Relative increase in rainfall amount for storm durations over six hours</th></tr><tr><th>Time (hours)</th><th>100-year ratio</th><th>PMP ratio</th></tr><tr><td>6</td><td>1.000</td><td>1.000</td></tr><tr><td>6.5</td><td>1.019</td><td>1.013</td></tr><tr><td>7</td><td>1.035</td><td>1.025</td></tr><tr><td>7.5</td><td>1.051</td><td>1.037</td></tr><tr><td>8</td><td>1.066</td><td>1.048</td></tr><tr><td>8.5</td><td>1.081</td><td>1.058</td></tr><tr><td>9</td><td>1.094</td><td>1.068</td></tr><tr><td>9.5</td><td>1.108</td><td>1.078</td></tr><tr><td>10</td><td>1.120</td><td>1.087</td></tr><tr><td>10.5</td><td>1.132</td><td>1.096</td></tr><tr><td>11</td><td>1.144</td><td>1.104</td></tr><tr><td>11.5</td><td>1.155</td><td>1.112</td></tr></table>						Relative increase in rainfall amount for storm durations over six hours			Time (hours)	100-year ratio	PMP ratio	6	1.000	1.000	6.5	1.019	1.013	7	1.035	1.025	7.5	1.051	1.037	8	1.066	1.048	8.5	1.081	1.058	9	1.094	1.068	9.5	1.108	1.078	10	1.120	1.087	10.5	1.132	1.096	11	1.144	1.104	11.5	1.155	1.112
Relative increase in rainfall amount for storm durations over six hours																																																						
Time (hours)	100-year ratio	PMP ratio																																																				
6	1.000	1.000																																																				
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Marshall	2.5	3.2	4.3	4.9	5.5	26.8																																																
McPherson	2.5	3.2	4.4	5.1	5.7	27.1																																																
Meade	2.1	2.8	4.0	4.6	5.1	26.3																																																
Miami	2.7	3.5	4.7	5.2	5.9	27.7																																																
Mitchell	2.3	3.0	4.1	4.7	5.2	26.4																																																
Montgomery	2.8	3.5	5.0	5.5	6.2	28.3																																																
Morris	2.6	3.4	4.5	5.1	5.8	27.3																																																
Morton	1.9	2.5	3.6	4.1	4.6	25.4																																																
Nemaha	2.5	3.2	4.4	5.0	5.6	26.9																																																
Neosho	2.7	3.5	4.9	5.5	6.1	28.2																																																
Ness	2.1	2.8	3.9	4.5	4.9	26.1																																																
Norton	2.0	2.6	3.7	4.3	4.7	25.6																																																
Osage	2.6	3.4	4.6	5.2	5.9	27.5																																																
Osborne	2.2	2.9	4.0	4.6	5.1	26.2																																																
Ottawa	2.4	3.1	4.3	4.9	5.4	26.8																																																
Pawnee	2.2	2.9	4.1	4.7	5.2	26.6																																																
Phillips	2.1	2.8	3.8	4.4	4.9	25.8																																																
Pottawatomie	2.5	3.2	4.4	5.0	5.6	27.0																																																
Pratt	2.3	3.1	4.3	4.9	5.5	27.0																																																
Rawlins	1.9	2.5	3.5	4.0	4.5	25.0																																																
Reno	2.4	3.2	4.4	5.0	5.7	27.2																																																
Republic	2.3	3.0	4.1	4.8	5.3	26.4																																																
Rice	2.4	3.1	4.3	4.9	5.5	26.9																																																
Riley	2.5	3.2	4.4	5.0	5.6	27.0																																																
Rooks	2.1	2.8	3.9	4.5	4.9	26.0																																																

Time (hours)	100-year ratio	PMP ratio
12	1.166	1.120
13	1.187	1.134
14	1.207	1.148
15	1.225	1.161
16	1.243	1.173
17	1.259	1.185
18	1.275	1.196
20	1.305	1.217
22	1.333	1.236
24	1.359	1.254

(c) If the drainage area exceeds 10 square miles, the rainfall depth obtained from the table in subsection (a) may be reduced by the ratio shown in the table in this subsection. The ratio for the zone in which the dam is located and a drainage area less than or equal to the actual drainage area above the dam shall be selected. The use of linear interpolation shall be acceptable. That ratio shall be multiplied by the depth of rainfall from the table in subsection (a). The result is the design duration rainfall depth. The ratios in subsection (b) and this subsection may be used together, if subsections (b) and (c) both apply.

Drainage area (sq. mi.)	Reduction ratio		
	Zone 1	Zone 2	Zone 3
10	1.00	1.00	1.00
12	0.99	0.99	0.98
15	0.97	0.95	0.93
17	0.96	0.94	0.91
20	0.94	0.91	0.88
22	0.93	0.90	0.86
25	0.92	0.88	0.83
27	0.92	0.87	0.82
30	0.91	0.86	0.80
35	0.90	0.84	0.77
40	0.88	0.82	0.75
45	0.87	0.80	0.72
50	0.86	0.78	0.70
60	0.84	0.75	0.65
70	0.82	0.72	0.62
80	0.80	0.70	0.59
90	0.79	0.68	0.57
100	0.78	0.67	0.55

Zone 1, zone 2, and zone 3 shall have the meanings specified in K.A.R. 5-40-1 under the definition of a "stream." (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-32. Determination of rainfall excess.

(a) Rainfall excess shall be determined by using the natural resource conservation service (NRCS) runoff curve number method.

(b) The antecedent moisture condition (AMC) to be used when determining the curve number for the design storm shall be one of the following:

(1) For zone one, the curve number determined using AMC III;

(2) for zone two, the curve number determined by averaging the AMC II and AMC III curve numbers; or

(3) for zone three, the curve number determined using AMC II.

Zone one, zone two, and zone three shall have the meanings specified in K.A.R. 5-40-1 under the definition of a "stream."

(c) If the drainage basin is in two zones, the curve number may be weighted based on the drainage area within each zone.

(d) AMC II shall be used in determining the rainfall-runoff relationship used to compute the required detention storage. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-33. Hydrographs. The rainfall excess determined in K.A.R. 5-40-32 shall be used to determine the time-discharge relationship of inflow to the reservoir for the detention storm and design storm using the techniques described in chapter 16, "hydrographs," in the natural resource conservation service (NRCS) national engineering handbook, part 630, dated March 2007, which is hereby adopted by reference. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-40. Geotechnical investigation of all dams. (a) Each applicant shall ensure that a sufficient geotechnical investigation is performed on the proposed site for each dam to design the dam in accordance with the regulations of the chief engineer and with sound engineering principles and commonly accepted engineering practices. The materials under the proposed dam, open-channel spillway, and borrow area shall be investigated before design and submission of the application for a permit to construct a dam. If unusual or unexpected foundation conditions are encountered in the investigations required in this regulation, additional geotechnical investigation and soil mechanics testing shall be performed as necessary to design and construct the dam in accordance with the regulations of the

chief engineer and with sound engineering principles and commonly accepted engineering practices.

(b) The geotechnical investigation specified in these regulations shall be designed by a licensed professional competent in geotechnical investigation and analysis for dams.

(c) The geotechnical information specified in these regulations shall be included in the engineering design report and submitted with the proposed construction plans. The report shall contain a general description of the geotechnical investigation, including the method used for sampling.

(d) The soils sampled in all of the geotechnical investigations shall be classified by using field classification methods and the uniform soil classification system.

(e) The dam design shall make appropriate accommodations for the geology discovered in the investigation.

(f)(1) The foundation of the dam shall be investigated to a depth of not less than one-half the height of the dam at the location of the test hole plus five feet.

(2) If unweathered bedrock is encountered before reaching the sampling depth required in paragraph (f)(1), the sampling shall be done to the unweathered bedrock.

(g) The static water level in each test hole shall be recorded.

(h) A sufficient number of test holes shall be made in each open-channel spillway to determine the stability of the spillway crest and the outlet channel down to the streambed elevation.

(i) A sufficient number of test holes in the borrow area shall be made to determine the amount of suitable material available and to classify the soil to be used in the embankment. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-41. Geotechnical investigation of a low-impact dam. (a) In addition to meeting the requirements of K.A.R. 5-40-40, each low-impact dam shall have a sufficient number of properly placed test holes to be representative of the geology under the proposed dam embankment, with an average of at least one test hole each 200 feet along the centerline of the dam and at least three test holes.

(b) Except as specified in subsection (d) and K.A.R. 5-40-74, each existing unpermitted, illegal dam shall have the same level of geotechnical in-

vestigation as that required for a proposed new dam, except that testing the borrow area shall not be required, before a permit will be issued. In addition, the condition of the following shall be determined:

(1) All conduits passing through the embankment;

(2) the embankment in the vicinity of the conduits; and

(3) the rest of the embankment, including any slides, seeps, saturated areas, sloughs, and other visible anomalies in the embankment.

(c) If there are any signs of instability in the embankment, the stability of the slope of the existing embankment shall be analyzed according to the requirements of K.A.R. 5-40-46(c).

(d) An existing unpermitted, illegal low-hazard dam that is class size 1, 2, or 3, for which a qualified professional has conducted an inspection and submitted to the chief engineer a report of that investigation demonstrating that a geotechnical investigation is not necessary to protect the public safety and property, shall not be required to have the geotechnical investigation required by subsection (b). (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-42. Geotechnical investigation of a high-impact dam. (a) In addition to meeting the requirements of K.A.R. 5-40-40, each proposed high-impact dam shall have at least the following number of geotechnical test holes:

(1) A sufficient number of properly placed test holes to be representative of the geology under the proposed dam embankment, with an average of at least one test hole every 100 feet along and as close to the centerline of the dam as practical and a minimum of three test holes; and

(2) a test hole as close as practical to the anticipated location of the following:

(A) The base of the drop inlet; and

(B) the support of the outlet pipe.

(b) At least one representative sample of undisturbed soil shall be tested to determine shear strength parameters, permeability, and compressibility.

(c) The geotechnical investigation shall determine the following for at least one representative sample:

(1) Atterberg limits;

(2) the settlement characteristics of the pro-

posed embankment materials and the foundation of the dam;

(3) the Proctor compaction curves of soils;

(4) gradation tests of foundation materials, especially where drain systems could be located; and

(5) any other properties necessary to design a dam to meet the requirements of the regulations of the chief engineer, sound engineering principles, and commonly accepted engineering practices.

(d) Each existing unpermitted, illegal dam shall have the same level of geotechnical investigation as that required for a proposed dam, except that testing the borrow area shall not be required, before a permit may be issued. In addition, the following properties shall be determined:

(1) The condition of all conduits passing through the embankment and the condition of the embankment in the vicinity of the conduits;

(2) the in situ density of the existing embankment and its foundation;

(3) the condition of the embankment, including any slides, seeps, saturated areas, sloughs, and other visible anomalies in the embankment; and

(4) a slope stability analysis of the existing embankment, which shall be performed according to the requirements of K.A.R. 5-40-46. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-43. Cutoff trench. (a) Each dam shall have a cutoff trench. The cutoff trench shall meet all of the following requirements:

(1) Have side slopes no steeper than one horizontal unit to one vertical unit;

(2) have a bottom width of 10 or more feet as necessary to meet the compaction requirements of K.A.R. 5-40-44;

(3) be constructed to the depth justified in the design report based on the findings in the geotechnical report, unless observations by the inspecting engineer during construction justify a different depth;

(4) be backfilled with the most impervious material available at the site. If no impervious material is available at the site, then this material shall be procured off-site;

(5) be backfilled with material that is contiguous to and homogeneous with the most impervious zone within the dam, if the dam is designed as a zoned fill;

(6) be constructed in lifts that shall not exceed nine inches for each lift; and

(7) be constructed of a material that has been brought to acceptable moisture content.

(b) The material placed in the cutoff trench shall be placed according to the same specifications as those required for the embankment in K.A.R. 5-40-44. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-44. Embankment. (a) The minimum top width of an embankment shall be determined from the following table:

Height of dam (in feet)	Minimum top width (in feet)
less than 20	10
20 through 24.9	12
25 through 39.9	14
40 or greater	15

(b) The top of the dam shall be sloped toward the reservoir, unless special measures are taken to adequately control erosion on the downstream side of the dam.

(c) The height of each lift in the embankment and cutoff trench shall be no more than nine inches, unless the dam is designed as a zoned fill. If the dam is designed as a zoned fill, the lifts outside the cutoff trench and most impermeable zone may be larger if geotechnical data is provided that shows that adequate compaction can be achieved using lifts in excess of nine inches.

(d) The material in each low-impact embankment and cutoff trench shall be brought to a moisture content that can be compacted in accordance with this subsection. Each application for a low-impact dam shall contain specifications requiring adequate compaction. The minimum compaction required shall be achieved by one of the following:

(1) Using a sheepsfoot roller until the feet cease to push into the fill material and start to walk across the compacted surface;

(2) using the controlled movement of rubber-tired earth-moving equipment so that every point on the surface of each lift is traversed by not less than one tread track of the equipment; or

(3) using another method that achieves the compaction required by this subsection.

(e) Each high-impact dam shall include the following in its specifications for earth placement in the embankment and cutoff trench:

(1) The minimum and maximum allowable levels of soil moisture;

(2) the compaction standards;

(3) a provision for testing the soils placed during construction; and

(4) a means to ensure that the compaction standards approved by the chief engineer are met during construction.

(f) In addition to the requirements of subsections (d) and (e), the specifications for hand-compacted fill around each conduit in the embankment shall meet the following requirements:

(1) Set a maximum lift of one-third the diameter of the outside of the conduit. However, no lift shall exceed four inches; and

(2) specify a minimum distance around the conduit for hand compaction. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-45. Allowance for settlement of an earthen dam. (a) A detailed soil mechanics investigation report shall be submitted as part of the design report for each high-impact dam. An appropriate allowance for settlement shall be made based on the results in the soil mechanics report.

(b) If a detailed soil mechanics investigation report is not submitted for a low-impact dam, at least five percent of the height of the dam shall be allowed for settlement of the embankment.

(c) An allowance for settlement on each dam may be made by steepening the side slopes during construction and adding to the height of the embankment as needed to increase the height of the dam. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-46. Side slopes of an earthen dam.

(a) The side slopes of each earthen dam shall be designed and constructed to be stable and easily maintained.

(b) A slope stability analysis shall be required on each high-impact dam.

(c) If a slope stability analysis is required, the minimum factor of safety shall be based on the steady-state seepage load condition with the water level at the elevation of the lowest open-channel spillway or other uncontrolled spillway with a trash rack that meets the requirements of K.A.R. 5-40-51, as shown in the following table:

Class size	Hazard class	Factor of safety
4	A	1.4
3, 4	B	1.5
1, 2, 3, 4	C	1.5

(d) Each dam whose face is subject to prevailing winds shall be given additional protection from

erosion caused by wave action, which may include a flatter side slope, the use of riprap, or the use of grass or vegetation adapted to fluctuating water levels. The design of any slope protection for the embankment and the auxiliary spillway or service spillway shall be shown on the plans. If no slope protection is provided, regardless of the orientation of the dam, the design report shall provide justification for not having slope protection.

(e) The steepest allowable design side slope shall be three horizontal units to one vertical unit on the upstream side of the dam, and two and one-half horizontal units to one vertical unit on the downstream slope of the dam. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-50. Pipes. (a) Each pipe under or through an embankment shall meet the following requirements:

(1) Be capable of withstanding the external load without buckling, cracking, being damaged, or being deformed. The minimum internal diameter of the pipe shall not be reduced by more than the pipe manufacturer's stated allowable, long-term pipe deflection limit and in no case by more than five percent;

(2) be designed to adequately resist flotation;

(3) be impervious to water, with watertight joints and seams;

(4) except for drawdown pipes, be installed with sufficient slope to provide adequate drainage, with a minimum average slope of one percent after settlement. No pipe shall have an adverse grade through any section of pipe;

(5) if the pipe is installed in conjunction with a riser on a high-impact dam, be placed to insure that the requirements of paragraph (a)(4) are met and that all pipe sections are properly aligned after settlement of the foundation and consolidation of the embankment;

(6) have the discharge end extended a sufficient distance beyond the downstream toe of the dam to avoid erosion to the dam;

(7) be adequately supported at the discharge end to prevent deflection when the pipe is flowing full; and

(8) if the pipe is a primary spillway, be sized to evacuate 95 percent of the detention storage in 14 or fewer days.

(b) Steel cylinder-reinforced concrete pipe shall be acceptable for use in any dam if the design computations, plans, and specifications related to

the placement of the pipe meet the minimum requirements of the manufacturer.

(c) In applying the provisions of subsections (c), (e), and (f), the depth of fill over the top of each pipe shall be measured from the top of the embankment after settlement has occurred. Reinforced concrete pipe shall be acceptable for use in a low-impact dam if less than 30 feet of fill will be placed over the pipe and if the design computations, plans, and specifications related to the placement of the pipe meet the minimum requirements of the manufacturer.

(d) Each metal pipe shall be coated with a protective coating adequate to prevent corrosion for the planned life of the dam, or the design report shall include an estimate of the expected life of the pipe, the expected life of the dam, and a plan for replacement of the pipe when it no longer functions as designed.

(e) Corrugated metal pipe shall be acceptable for use in any hazard class A or B dam if no more than 25 feet of fill is placed over the pipe.

(f)(1) Polyvinyl chloride pipe shall be acceptable for use in any dam if the maximum fill over the pipe does not exceed the depth specified in the following table:

Standard dimension ratio (SDR)	Maximum fill over top of pipe (feet)
SDR 17 and thicker	35
SDR 18	31
SDR 21	23
SDR 25	18
SDR 26	16
SDR 28	14

A pipe with walls thinner than SDR 28 shall not be used.

(2) Polyvinyl chloride pipe shall not be placed in high-plasticity soils.

(3) Each portion of polyvinyl chloride pipe that will be exposed to sunlight shall be protected as recommended by the manufacturer of the pipe or shall be encased in a protective material.

(g) Pipe materials other than those described in subsections (b) through (f) may be used if the applicant demonstrates that all of the following criteria are met:

(1) The pipe material, accounting for any protective measures that will be taken, has a minimum expected life of 25 years if exposed to sunlight or buried in soil with the same characteristics of the soil to be used to construct the dam.

(2) All of the pipe manufacturer's design recommendations are met by the plans and specifications for the dam and are documented in the design report.

(3) All of the pipe manufacturer's recommendations for bedding, supporting, and installing the pipe are included in the specifications for construction of the dam, except those specifications that are demonstrated in the design report to be inapplicable in the construction of the proposed dam.

(4) The design report includes an estimate of the life of the pipe, the life of the dam, and a plan to replace the pipe when it no longer functions as designed if the design life of the pipe is less than that of the dam.

(5) The design report demonstrates that the proposed placement and use of the pipe will meet the requirements of sound engineering principles and commonly accepted engineering practices.

(h) If the estimated life of a pipe is less than the estimated life of the dam, the permit shall contain the condition that the pipe shall be replaced when the pipe no longer functions properly. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-51. Acceptable trash racks for primary spillways. (a) Except as specified in subsection (c), each new or modified primary spillway permitted on or after the effective date of this regulation shall be equipped with an acceptable trash rack, as specified in subsection (b).

(b) "Acceptable trash rack" shall mean a trash rack designed and constructed to prevent debris from clogging the inlet of the primary spillway or the primary spillway conduit. Each acceptable trash rack shall be constructed of material of sufficient strength to withstand the impact of the material that could strike the inlet.

(c)(1) Each primary spillway in a dam permitted before the effective date of this regulation shall be equipped with the acceptable trash rack required by the permit and approval of design. If no trash rack was required by the permit and approval of design, no trash rack shall be required unless the primary spillway fails to function properly.

(2) If the applicant demonstrates that there is not sufficient woody vegetation or other debris in the drainage area to justify the installation of an

acceptable trash rack, the requirement to have an acceptable trash rack may be waived.

(d) If a fish screen is installed, the screen shall not impair the functioning of the primary spillway. If a fish screen is proposed, the design report shall demonstrate that the screen is designed in accordance with the standards of subsection (b) and will not impair the functioning of the primary spillway. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-52. Stilling basins. (a) For each new dam, for each primary spillway conduit replacement, and for each existing dam for which the chief engineer determines that it is necessary to protect the integrity of the embankment, each primary spillway conduit with a cross-sectional area in excess of 1.75 square feet shall discharge into one of the following:

(1) A constructed stilling basin below the downstream toe of the dam; or

(2) any other constructed works designed to dissipate energy and prevent erosion.

(b) If a stilling basin is required or constructed, the stilling basin shall be designed to dissipate the energy of the water exiting the conduit so that the stilling basin discharges water to the receiving channel without causing excessive erosion and the stilling basin itself is not damaged by full conduit flow.

(c) The invert of the outlet conduit that discharges into a stilling basin shall be located at least one foot above the tailwater elevation in the stilling basin when water is flowing through the primary spillway at the maximum rate of discharge during the design storm. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-53. Drawdown pipes. (a) Except as specified in subsection (b), each dam shall be equipped with a drawdown pipe that meets the requirements for a pipe as specified in K.A.R. 5-40-50. A valve or gate shall be installed in the pipe so that the controls are accessible and damage from freezing is prevented. Drawdown pipes may be incorporated into the primary spillway.

(b) The installation of a drawdown pipe shall not be required for a low-impact dam if the chief engineer determines that both of the following criteria are met:

(1) The failure to install a drawdown pipe will

not prejudicially and unreasonably affect the public interest and the public safety.

(2) The drawdown pipe is not necessary to administer water rights.

(c) Each drawdown pipe shall have the capacity to evacuate 90 percent of the volume of the permanent pool in 14 or fewer days assuming no inflow into the reservoir, but in no case shall the drawdown pipe have an internal diameter of less than four inches. The inlet of the drawdown pipe shall be constructed to reduce the likelihood of plugging. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-54. Control of seepage along a conduit. (a) Each conduit through any portion of a dam below the elevation of the permanent pool shall be constructed to protect the dam from seepage along the conduit by means of cutoff collars or a drainage diaphragm. Cutoff collars may be used only on hazard class A dams that are class sizes one and two.

(b) Each drainage diaphragm shall meet all of the following design criteria:

(1) Be installed so that the largest face is perpendicular to the conduit;

(2) be sized as follows:

(A) If the conduit is circular, the diaphragm shall extend a minimum of two feet or three times the outside diameter of the conduit, whichever is greater, from the outside surface of the conduit horizontally and vertically upward. The diaphragm shall extend vertically downward a minimum of two feet from the outside surface of the conduit;

(B) if the conduit is rectangular, the diaphragm shall extend minimum of two feet or three times the vertical dimension of the conduit, whichever is greater, from the outside surface of the conduit horizontally and vertically upward. The diaphragm shall extend vertically downward a minimum of two feet from the outside surface of the conduit;

(C) a drainage diaphragm shall not be required to penetrate unweathered bedrock; and

(D) the diaphragm shall not be required to extend vertically upward to an elevation higher than the crest of the auxiliary spillway;

(3) have a dimension parallel to the conduit that is at least three feet thick;

(4) except as specified in subsection (d), be located downstream of the centerline of the dam,

downstream of the cutoff trench, and far enough upstream of the toe so that there is a minimum of two feet of fill, measured perpendicular to the surface of the embankment, over the top of the diaphragm after settlement of the embankment; and

(5) have an outlet that provides positive drainage of the diaphragm to the stilling basin or other point below the downstream toe of the dam. The flow line of the outlet shall be no lower than one-half foot above the elevation of the outlet of the stilling basin.

(c) Except as specified in subsection (d), each cutoff collar shall meet all of the following design criteria:

(1) Be constructed of the same or similar material as that of the conduit;

(2) be attached to the conduit with a watertight seal;

(3) be of sufficient size and number to increase the length of the seepage path by at least 15 percent;

(4) be spaced at intervals of at least twice the vertical dimension of the largest collar being used;

(5) be located along the conduit in that portion of the dam that will be saturated;

(6) project a minimum of two feet beyond the outside wall of the conduit; and

(7) be located no closer than two feet from any conduit joint.

(d) If cutoff collars or a drainage diaphragm is located in a zoned fill, the location shall be justified in the design report and established in accordance with sound engineering principles and commonly accepted engineering practices.

(e) If another drain included in the design meets the requirements for a diaphragm in subsection (b), that other drain may be considered to be the diaphragm required by subsection (a).

(f) If the applicant desires to use any other type of seepage control, the applicant shall demonstrate to the chief engineer that the proposed type of seepage control protects the dam from seepage along the conduit and meets the requirements of sound engineering principles and commonly accepted engineering practices. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-55. Earthen auxiliary spillways.

Each earthen auxiliary spillway shall meet all of the following requirements: (a) If the design discharge from the auxiliary spillway is directed so that the discharge impinges on the downstream toe of the dam, a wing dike shall be designed and constructed to direct spillway flows away from the downstream toe of the dam.

(b) If the auxiliary spillway is located on the embankment of the dam, adequate armor protection, including articulated blocks, concrete paving, gabion baskets underlain with properly designed bedding, or engineered riprap, shall be placed on the portion of the dam where the auxiliary spillway is located.

(c) The side slopes shall be no steeper than three horizontal units to one vertical unit, unless the spillway is constructed through competent sandstone or limestone.

(d) There shall be at least a 30-foot level section immediately upstream of the control section. Immediately downstream of the control section, the slope of the spillway outlet shall be sufficient to ensure that flows at and above 50 percent of the design storm discharge will flow at a supercritical velocity.

(e) The auxiliary spillway shall be a minimum of three feet deep, as measured from the elevation of the control section to the design top of the dam.

(f) The entrance channel from the reservoir to the level section shall provide a smooth transition that prevents turbulent flow.

(g) The outlet channel shall convey flow to the receiving stream channel with a minimum of erosion.

(h) If a fish screen is installed, the screen shall not impair the functioning of the auxiliary spillway. If a fish screen is proposed, the design report shall demonstrate that the screen will not impair the functioning of the auxiliary spillway. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-56. Maximum design velocity for an auxiliary spillway.

(a) The maximum velocity in feet per second during the design storm for water flowing in a vegetated earthen auxiliary spillway shall be determined from the following table:

Vegetation	Slope of the exit channel			
	Erosion-resistant soils		Easily erodible soils	
	0% to 5%	5% to 10%	0% to 5%	5% to 10%
Bermuda grass and Bahia grass	8	7	6	5
buffalo grass, Kentucky blue grass, smooth brome grass, tall fescue, and reed canary grass	7	6	5	4
sod-forming grass-legume mixtures	5	4	4	3
weeping love grass, yellow bluestem, and native grass mixtures	3.5	3.5	2.5	2.5

(b) The maximum design velocities specified in subsection (a) may be increased by not more than 10 percent if the design frequency of use of the auxiliary spillway is not more than two percent. The maximum design velocities may be increased by not more than 25 percent if the design frequency of use of the auxiliary spillway is not more than one percent.

(c) For exit channel slopes greater than 10 percent, the applicant shall provide analyses showing both of the following:

(1) There is no more than 0.5 foot of erosion depth within 20 feet of the control section for the one-percent chance storm.

(2) The auxiliary spillway does not fail by breaching during the spillway stability design event indicated in the following table:

Hazard class	Size class	Spillway stability design event
A	1, 2, or 3	0.3 PMP
A	4	0.4 PMP
B	1, 2, 3, or 4	0.5 PMP
C	1, 2, 3, or 4	PMP

(d) The provisions of paragraphs (c)(1) and (2) may be used for slopes of 10 percent or less in

lieu of the maximum values specified in the table in subsection (a).

(e) The maximum allowable design velocity for water flowing over the following types of materials shall be determined from the following table:

Material	Maximum velocity allowed in feet per second
stratified rock	8.0
sound rock	13.0

(f) Channel lining materials not reliant on vegetation, including concrete, riprap, and grouted riprap, may be used if the applicant demonstrates that the lining will not fail during the spillway stability design event specified in paragraph (c)(2). (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-57. Service spillway design. (a) If a dam will have a service spillway, the spillway shall be designed and constructed with a lining material that meets the following requirements:

(1) Covers the channel floor and walls up to the depth of flow required to bypass the flows of the storm specified as the detention requirement in K.A.R. 5-40-23(a), at a minimum; and

(2) will not fail during the spillway stability design event specified in K.A.R. 5-40-56(c)(2).

(b) Each design report required by K.A.R. 5-40-2b shall include all hydraulic, structural, and geotechnical design information necessary to show that the criteria in subsection (a) are met.

(c) If a fish screen is installed, the screen shall not impair the functioning of the service spillway. If a fish screen is proposed, the design report shall demonstrate that the screen will not impair the functioning of the service spillway. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-70. Construction notification to the chief engineer. Each holder of a permit to construct, or an approval to repair or modify a dam, shall notify the chief engineer at least 48 hours before any of the following stages of construction and shall obtain the approval of the chief engineer before proceeding with each of these stages of construction: (a) Starting construction;

(b) placing backfill in the cutoff trench;

(c) placing backfill around the primary spillway conduit or any other conduit that extends through

the dam embankment and exits the downstream slope; and

(d) starting any stage of construction not specified in this regulation for which the permit requires that the chief engineer shall be notified. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301a and 82a-303a; effective May 18, 2007.)

5-40-71. Inspection during dam construction, repair, and modification. (a) Except as specified in subsection (d), each high-impact dam shall be inspected by an engineer competent in the design of dams, or that engineer's authorized representative, at all times during any construction activity.

(b) Each low-impact dam shall be inspected by an engineer qualified in the design of dams, or that engineer's authorized representative, whenever any of the following conditions is met:

(1) Backfill is being placed in the cutoff trench of a dam.

(2) Conduits and their appurtenances are being placed.

(3) Backfill is being placed around a conduit.

(4) Drain material and outlets are being installed.

(5) Concrete forms and reinforcing steel are being placed.

(6) Concrete is being placed.

(7) Any other stage of construction required by the permit, approved plans, or approved specifications to be inspected occurs.

(c) Before the start of construction, the permit holder shall provide the chief engineer in writing with the name, address, and telephone number of the engineer responsible for the inspection.

(d) The inspecting engineer, or the engineer's authorized representative, shall not be required to be present during any of the following construction activities for a high-impact dam:

(1) The clearing and grubbing of the construction site;

(2) the removal of structures from the reservoir area other than the removal of a dam;

(3) the installation of pollution-control measures, unless required by other authorities;

(4) seeding;

(5) mulching; and

(6) the construction of a fence.

(e) If the inspecting engineer, or the engineer's authorized representative, observes construction activity that is not in compliance with the ap-

proved permit, plans, or specifications and the contractor fails to correct the item or items that are not in compliance with the approved permit, plans, or specifications after being notified by the inspector, the inspector shall notify the chief engineer of the noncompliant activity. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301a and 82a-303a; effective May 18, 2007.)

5-40-72. Construction inspection reports. The engineer responsible for the inspection required by K.A.R. 5-40-71 shall, within 30 days of the completion of the construction, repair, or modification of the dam and its appurtenances, submit to the chief engineer an inspection report containing the following items: (a) A notice of completion showing the date on which construction, repair, or modification of the dam and its appurtenances was completed;

(b) a statement indicating one of the following:

(1) The dam and its appurtenances were constructed, repaired, or modified substantially in accordance with the permit and the approved plans and specifications; or

(2) the completed work varied from the permit and the approved plans and specifications. A description of each variation shall be provided;

(c) a final survey of the completed dam and its appurtenances, including the following:

(1) A profile of the top of the dam;

(2) a profile of the centerline of the auxiliary spillway or service spillway;

(3) a cross section at the control section of the auxiliary spillway or service spillway;

(4) a cross section of the dam at its deepest point;

(5) a cross section of the dam at the primary spillway if that section is not near the deepest section of the dam;

(6) the locations and elevations of the inlet and the outlet of the primary spillway;

(7) the location and elevation of each drain outlet; and

(8) the final elevation and coordinates of each permanent benchmark; and

(d) a summary or a copy of the daily inspection logs if required by the permit. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301a and 82a-303a; effective May 18, 2007.)

5-40-73. Emergency action plan. (a) The owner of each hazard class B dam shall create an

emergency action plan (EAP) on a form prescribed by the chief engineer. The owner shall keep the original EAP and submit a copy of the EAP to the chief engineer. The EAP shall address each of the following:

(1) A description of the dam, including the location of the dam and the access roads;

(2) the name, address, and telephone number of the person responsible for notifying local authorities of an emergency;

(3) a map or written description of the area that could be inundated by the type of breach described in K.A.R. 5-40-24;

(4) a list of persons who should be notified in case of an emergency, including the telephone numbers of those persons and their responsibilities; and

(5) the names, addresses, and telephone numbers of each owner of the dam and its appurtenances and those persons responsible for the operation and maintenance of the dam.

(b) Except as specified in subsection (d), the owner of a hazard class C dam shall create and maintain an emergency action plan that meets the recommendations of the "federal guidelines for dam safety: emergency action planning for dam owners," prepared by the interagency committee on dam safety and published by the federal emergency management agency, dated October 1998 and reprinted January 2004, which is hereby adopted by reference. The owner shall submit a copy of the EAP to the chief engineer.

(c) The owner of any dam for which an EAP is required under these regulations shall annually review the EAP to determine if it is still accurate and applicable to the current condition of the dam and current downstream conditions, including the following:

(1) The contact names and related information;

(2) the breach inundation map or a description of the inundation area; and

(3) emergency procedures.

If any material changes are made when updating the EAP, a copy of the revised EAP shall be submitted to the chief engineer.

(d) Any owner of a hazard class C dam may request that the chief engineer allow the owner to submit an EAP that meets only the requirements of subsection (a) in lieu of meeting the requirements of subsection (b). To make this request, the owner shall submit written justification of why an EAP meeting the requirements of subsection (a) is sufficient to protect the public safety. If the

chief engineer approves the request, the chief engineer shall reserve the right to later impose the requirements of subsection (b) if downstream conditions change, the condition of the dam deteriorates, or the EAP does not adequately protect the public safety.

(e) The owner of a hazard class B dam shall submit the required EAP within 180 days of written notification by the chief engineer of the requirement.

(f) The owner of a hazard class C dam shall submit the required EAP within 180 days of written notification by the chief engineer that an EAP is required and that an adequate EAP is not on file in the chief engineer's office. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-73a. Discovery of an existing illegal, unpermitted dam. (a) Except when it is necessary to take additional actions to protect the public safety, when the chief engineer becomes aware of an existing illegal, unpermitted dam, the following actions shall be taken by the chief engineer:

(1) Determine the hazard classification and condition of the dam;

(2) notify the owner of the dam of the following, in writing:

(A) The fact that the dam is illegal and unpermitted;

(B) the hazard classification of the dam;

(C) the fact that if the owner desires to keep the dam in existence, the owner shall submit a complete application for a permit for the dam pursuant to K.S.A. 82a-301 and K.S.A. 82a-302, and amendments thereto, within 120 days of the date of the chief engineer's notification;

(D) the condition that the application to obtain a permit for the dam shall meet the requirements of K.A.R. 5-40-8 and K.A.R. 5-40-74;

(E) the fact that failure to apply for a permit within 120 days shall result in the issuance of an order by the chief engineer requiring the owner to submit plans to breach or completely remove the dam; and

(F) the fact that the dam is subject to the provisions of this regulation.

(b)(1) If the owner submits an application for a permit within the time specified in paragraph (a)(2)(C), or within any extension of time authorized by the chief engineer in writing, the appli-

cation shall meet the requirements of K.A.R. 5-40-8 and K.A.R. 5-40-74.

(2) If the owner fails to submit an application for a permit within the time specified in paragraph (a)(2)(C), or within any extension of time authorized by the chief engineer, an order requiring the owner to perform the following shall be issued by the chief engineer:

(A) Submit plans to breach or completely remove the dam; and

(B) bypass inflows and release water from storage so that no more than 15 acre-feet of water is kept in storage in the reservoir while the application for a permit to breach or completely remove the dam is being processed. The application for a permit shall contain all of the information required by K.A.R. 5-40-8 and any other information necessary to properly and safely design and complete the breach or removal. The application shall be submitted within 120 days of the date of the order, or within any extension of time authorized by the chief engineer. The owner shall be required to complete the breach or removal as permitted by the chief engineer within one year of the approval of a permit by the chief engineer, or any extension of time authorized by the chief engineer in writing.

(c) If the chief engineer dismisses an application for an existing illegal, unpermitted dam for any reason, the dismissal of the application shall be accompanied with an order requiring the dam to be breached or removed as provided in paragraph (b)(2).

(d) The order described in paragraph (b)(2) shall be filed by the chief engineer with the register of deeds for the county in which the dam is located.

(e) Each existing illegal, unpermitted dam of which the chief engineer becomes aware, either before or after the adoption of this regulation, shall be subject to this regulation. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301, 82a-302, and 82a-303a; effective May 18, 2007.)

5-40-74. Design criteria for an existing illegal, unpermitted dam. (a) Except as specified in subsection (b), the design criteria specified in this subsection (a) shall be met to obtain a permit from the chief engineer pursuant to K.S.A. 82a-301 et seq., and amendments thereto, for an existing illegal, unpermitted hazard class A dam constructed before May 1, 1984 that has not been

modified on or after May 1, 1984. The applicant shall have an engineer who is qualified in dam design and construction conduct an inspection of the dam and prepare a report that includes all of the following:

(1) The date of the inspection and a list of the members of the inspection team;

(2) color photographs documenting the condition of the dam's appurtenances and embankment and any observed deficiencies in the appurtenances and embankment;

(3) a plan view sketch of the dam and its immediate vicinity showing the location from which each photograph was taken and the direction in which it was taken;

(4) a description of the physical condition of the dam and its appurtenances, a list of the deficiencies that were observed, and a description of the severity of each observed deficiency. All deficiencies that may threaten the structural integrity of the dam shall be shown; and

(5) a survey of the dam, documented by a plan view of the dam and cross section drawings, including the following:

(A) Cross sections of the embankment every 200 feet, with each cross section starting from the upstream toe of the dam or the water surface on the upstream side to the toe of the dam on the downstream side of the dam;

(B) a profile of each open-channel spillway from the water surface on the upstream side of the dam to the point where spillway flows enter the receiving stream;

(C) a cross section of each open-channel spillway every 200 feet and at each control section, with a minimum of two cross sections;

(D) the elevation of each primary spillway inlet and outlet;

(E) the elevation of the flow line of the outlet channel; and

(F) the dimensions, locations, and descriptions of materials, workmanship, condition, apparent purpose for, and any other relevant information about all visible appurtenances in sufficient detail to represent the appurtenances in three dimensions;

(6) the dimensions and location of each deficiency noted as required in paragraph (a)(4);

(7) the estimated rate and color of discharge from drain outlets and any seeps;

(8) a determination of the hazard classification of the dam as specified in K.A.R. 5-40-24;

(9)(A) A description of the drawdown valve, if any;

(B) specification of whether the valve was operated during the inspection; and

(C) if the valve could not be operated, an explanation of why it could not be operated;

(10) the name, mailing address, and telephone number of the engineer who conducted the inspection;

(11) the name, mailing address, and telephone number of each current owner of the dam; and

(12) any other information relevant to the safety and integrity of the dam, including any items requested by the chief engineer before the inspection.

(b) If the applicant provides construction plans prepared before construction that show how the dam was to be constructed or modified and that reflect the actual dimensions of the dam as it exists, those plans may be substituted for the survey required in paragraph (a)(5).

(c) If the chief engineer determines from the inspection report that the dam does not pose a threat to public safety or public or private property and that the condition of the dam is sound, an after-the-fact permit may be issued by the chief engineer pursuant to K.S.A. 82a-301 et seq., and amendments thereto.

(d)(1) In order for an existing illegal, unpermitted hazard class A dam constructed or modified on or after May 1, 1984 or an existing illegal, unpermitted hazard class B or C dam to receive a permit from the chief engineer pursuant to K.S.A. 82a-301 et seq. and amendments thereto, the applicant shall demonstrate that the dam meets all of the applicable statutory and regulatory requirements in effect when the application for the permit is filed. The applicant shall provide a survey meeting the requirements of paragraph (a)(5) and a design report that meets the requirements of K.A.R. 5-40-2b. If plans are available that show how the dam was constructed or modified and those plans reflect the actual dimensions of the dam as it exists when the application is filed, the plans may be substituted for the required survey. If a geologic investigation was conducted before construction of the dam and the results of that investigation are available, that investigation may be substituted for the investigation and report required by K.A.R. 5-40-40 through K.A.R. 5-40-42.

(2) If the applicant cannot determine that the chief engineer's requirements for the following design or actual construction properties were met

without significantly disturbing the embankment but the applicant demonstrates that the dam was built in a manner appropriate to the standards in effect when the dam was constructed, then a permit may be issued if the chief engineer determines that the dam does not pose a hazard to public safety:

(A) The location, dimensions, and composition of the backfill materials to fill the cutoff trench;

(B) the location, dimensions, and construction of cutoff collars, drains, or other seepage control;

(C) the allowance for settlement of an earthen dam;

(D) specification of whether the primary spillway pipe was tested;

(E) the specifications used; and

(F) documentation of any construction inspections. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301a, 82a-302, and 82a-303a; effective May 18, 2007.)

5-40-75. Maintenance of dams. Each owner of a dam that the chief engineer has authority to regulate pursuant to K.S.A. 82a-301 et seq., and amendments thereto, shall operate and maintain the dam in a manner that protects the public safety, complies with the terms of any permit of the chief engineer, and ensures the integrity of the dam. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301a and 82a-303a; effective May 18, 2007.)

5-40-76. Repair or modification of a permitted or prejurisdictional dam. (a) The repair or modification of a permitted or prejurisdictional dam shall meet the requirements of both of the following:

(1) The statutes and the regulations in effect when the application for repair or modification is filed; and

(2) any additional criteria specified by the chief engineer that are necessary to ensure the integrity of the dam and its appurtenances.

(b) At the time of the repair or modification, the applicant shall bring the dam and all of its appurtenances into conformance with the requirements of the statutes and regulations in effect at the time of the application for repair or modification, unless both of the following conditions are met:

(1) The applicant demonstrates that bringing any feature of the dam and its appurtenances into compliance is not feasible or is unduly burdensome.

(2) The chief engineer determines that failing to bring any feature of the dam into compliance with one or more requirements applicable to that feature will not significantly affect the public safety.

(c) Each application to repair or modify a dam or its appurtenances shall include a design report on the repair or modification, including a section describing the condition of the dam at the time of the application. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-77. Easements for dams. (a) Each applicant that applies for a permit to construct a dam, modify a dam in a manner that will raise the top of the dam, or modify the dam in any other way that will increase the backwater effect of the dam or the flow of water from the dam to the receiving stream shall demonstrate either of the following to the chief engineer:

(1) The applicant owns the site of the dam and appurtenant works, the land that will be inundated, and the land over which discharge from the dam's spillways will flow.

(2) The applicant has easements or other legal authority to perform the following for the design life of the dam:

(A) Construct and maintain the dam;

(B) inundate all of the land upstream from the dam to the top of the dam elevation; and

(C) discharge water from the spillways to a stream channel and the associated floodplain adequate to convey the discharge from the design storm.

(b) For permitted dams for which a modification is proposed, an easement or other legal authority shall be required only for the effects caused by the modification. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302, K.S.A. 82a-303, and K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

5-40-90. Requirements for a dam safety inspection report. Each dam safety inspection report required by K.S.A. 82a-303b, and amendments thereto, shall document the observations made during the inspection and the engineer's opinion of the condition of the dam and shall include all of the following:

(a) An executive summary briefly describing the overall condition of the dam as found during the inspection;

(b) the date of the inspection and a list of the members of the inspection team;

(c) color photographs documenting the condition of the dam appurtenances and embankment and any observed deficiencies in the appurtenances and embankment;

(d) a plan view sketch of the dam and the vicinity, showing the location where each photograph was taken and the direction in which the photograph was taken;

(e) a description of the physical condition of the dam and its appurtenances, a list of any deficiencies that were observed, and a plan view sketch of the dam and its appurtenances showing the location of those deficiencies. The deficiencies that shall be shown shall include those that meet any of the following conditions:

(1) Violate the permit or approved plans or any approved modifications of the permit or approved plans;

(2) threaten the structural integrity of the dam; or

(3) threaten the safety of people or property above or below the dam;

(f) survey and other documenting data if the engineer observes any changes from previously documented conditions in the dam or its appurtenances that could jeopardize the integrity of the dam, including any changes in the profile or cross section of the dam, profile, or cross section of any open-channel spillway, and areas of settlement or erosion;

(g) a description of the severity of each observed deficiency and the engineer's opinion about the urgency of remedying each deficiency;

(h) a summary of the engineer's review of the adequacy of the emergency action plan, including a review of any updates since the last inspection;

(i) the estimated rate and color of discharge from drain outlets and any seeps;

(j) a statement indicating whether the engineer agrees or disagrees with the hazard classification of the dam, including the reasons why the engineer agrees or disagrees with that classification;

(k) a map drawn to a scale of 1:24,000 or larger showing the location of any hazards added, removed, or not previously shown downstream of the dam, in addition to those identified in previous reports, that would require a modification of the emergency action plan or might change the hazard classification of the dam;

(l) any significant changes in the capacity of the reservoir;

(m) any significant changes in the capacity of any spillway;

(n) a statement indicating whether there have been any significant changes in the watershed and an estimate of the impact of those changes on the design hydrology;

(o) the name, mailing address, and telephone number of the engineer;

(p) the name, mailing address, and telephone number of each current owner of the dam;

(q) observations or readings from all instrumentation required by the permit, the approved plans, the approved specifications, or the chief engineer;

(r)(1) A description of the drawdown valve, if any; and

(2) specification of whether the drawdown valve was operated during the inspection and, if the valve could not be operated, an explanation of why it could not be operated; and

(s) any other information relevant to the safety of the dam, including any items requested by the chief engineer before the inspection. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-91. Schedule for inspection of hazard class C dams. Each hazard class C dam shall be inspected every third inspection year after the inspection year in which the initial inspection was completed. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-92. Schedule for inspection of hazard class B dams. Each hazard class B dam shall be inspected every fifth inspection year after its initial inspection. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-93. Schedule for inspection of dams. The initial and follow-up dam safety inspections required by K.S.A. 82a-303b, and amendments thereto, for any dam completed on or after July 1, 2002, shall be conducted and a report shall be filed with the chief engineer in accordance with the following schedule: (a) Each permitted hazard class C dam shall be inspected in the third inspection year after the inspection year in which the dam is completed and every third inspection year thereafter.

(b) Each permitted hazard class B dam shall be inspected in the fifth inspection year after the in-

spection year in which the dam is completed and every fifth inspection year thereafter.

(c) Each unpermitted class B or class C hazard dam completed on or after July 1, 2002, shall be inspected in accordance with a schedule approved by the chief engineer as necessary to protect the public safety.

(d) Each dam that had its hazard class increased by the chief engineer on or after July 1, 2002, shall initially be inspected by the chief engineer in the inspection year in which the hazard class is increased.

(e) If the dam was reclassified as a hazard class B dam, the dam shall be inspected every fifth inspection year after the inspection year in which the hazard class was changed.

(f) If the dam was reclassified as a hazard C dam, the dam shall be inspected every third inspection year after the inspection year in which the hazard class was changed. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-94. Revision of schedule of inspections. For good cause shown, including a change in hazard class or repair or modification of a dam, the dam safety inspection schedule may be revised by the chief engineer and a new inspection cycle may be started. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-303a and 82a-303b; effective May 18, 2007.)

5-40-100. Request to be included on the list of independent engineers qualified to review applications. (a) Each licensed professional engineer who desires to be placed on the list of licensed professional engineers approved to review applications for the permit required by K.S.A. 82a-301 et seq., and amendments thereto, shall submit a request to the chief engineer on a form prescribed by the chief engineer.

(b) Any engineer may request approval in one or more of the following areas:

(1) Dam design;

(2) channel design; and

(3) the design of stream obstructions other than dams.

(c) A team of persons may be qualified to be a reviewer for a project. The qualifications of each team member shall be submitted, and one person shall be designated as the supervising reviewer. The supervising reviewer shall meet the minimum requirements for an individual reviewer. The

other members of the review team shall not be required to meet the minimum requirements for an individual reviewer. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-101. Information to be submitted with a request to be a reviewer. (a) Each engineer who wants to be included on the list of licensed professional engineers approved to review applications under the obstructions in streams act, as authorized by K.S.A. 82a-302, and amendments thereto, shall submit that request on a form prescribed by the chief engineer and shall designate each area of review for which the engineer or a team of engineers desires to be approved.

(b) All of the following information shall be included on each request for each area in which the engineer seeks to be approved:

(1) The type and license number of each current license from the Kansas state board of technical professions;

(2) relevant education, including graduate and postgraduate schools attended, degrees received, and professional development work; and

(3) work experience in the requested area of expertise, including the following:

(A) The number of years of experience as an engineering intern;

(B) the number of years of experience as an engineer; and

(C) the approximate number of projects for which the engineer met the following criteria:

(i) Was responsible for the project;

(ii) performed substantive design tasks;

(iii) had quality assurance, quality control, or project review responsibilities; and

(iv) performed construction supervision or inspection; and

(D) the project name, the location, a brief description of the project, and a brief description of the engineer's responsibilities for one or two projects for which the engineer met the following criteria:

(i) Had responsible charge or performed significant portions of the design; or

(ii) provided quality control, quality assurance, project review, construction supervision, or construction inspection duties. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006

Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-102. Minimum requirements to be an individual reviewer. To be an individual reviewer, each person shall meet both of the following qualifications: (a) Have a current professional engineer's license from the Kansas state board of technical professions; and

(b) have a minimum of five years of relevant work experience in the area for which approval is sought. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-103. Conflict of interest. A reviewer shall not be eligible to review any of the following: (a) Any project in which the reviewer has participated in the project's design in any way;

(b) any project designed by any other employee of the reviewer's current employer; or

(c) any other project for which the reviewer has a conflict of interest with the owner of the dam, the designer of the dam, or the state of Kansas. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-104. Notification of approval or disapproval to be a reviewer. Within 60 days of the receipt in the office of the chief engineer of a completed request pursuant to K.A.R. 5-40-101, the requester shall be notified by the chief engineer of whether that individual has been approved in each requested area. If the chief engineer has not approved the request for each area of review requested, the requester shall be notified by the chief engineer of the reason or reasons that each request has been denied. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-105. Procedure for independent review of an application to construct a dam or other water obstruction. (a) When an applicant provides a copy of that individual's application to an approved reviewer pursuant to K.S.A. 82a-302 and amendments thereto, the applicant shall also submit the following to the chief engineer:

(1) The original application;

(2) all documentation required for an acceptable application as specified in K.A.R. 5-40-8;

(3) the statutorily required filing fee; and

(4) the name, address, and telephone number of the reviewer.

(b) The review required by the water projects environmental coordination act, K.S.A. 82a-325 et seq. and amendments thereto, shall be initiated by the chief engineer after the chief engineer receives the application.

(c) Within 37 days after the review specified in subsection (b) is initiated by the chief engineer, any comments received from the environmental review agencies shall be sent by the chief engineer to the reviewer. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

5-40-106. Report of findings of independent reviewer. (a) When a reviewer completes the review of an application pursuant to K.S.A. 82a-302 and amendments thereto, the reviewer shall submit a report of that review to the chief engineer. The report shall be properly sealed by the reviewing engineer as directed by the Kansas state board of technical professions.

(b) Each complete report shall include the following:

(1) An opinion as to whether the application meets the requirements of K.S.A. 82a-301 et seq., and amendments thereto, the regulations that implement these statutes, sound engineering principles, and commonly accepted engineering practices;

(2) the basis for that opinion, including any analyses that were performed, and the supporting data;

(3) an evaluation of the comments from the environmental review agencies that were furnished to the reviewer by the chief engineer and a recommendation about how to address all adverse comments;

(4) a recommendation about whether any request by the applicant to waive one or more regulations should be approved and the basis for approving or denying the waiver; and

(5) a recommendation about whether the chief engineer should approve or deny the permit and any conditions that the chief engineer should impose on the permit.

(c) The recommendations shall not be binding on the chief engineer. The chief engineer shall maintain the final authority to approve or deny all applications. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-302 and 82a-303a; effective May 18, 2007.)

Article 41.—DESIGN OF CHANNEL CHANGES

5-41-1. Channel changes; plans and specifications. Plans for a channel change shall include the following: (a) A general location map or aerial photograph, showing the present alignment of the stream, location of the proposed channel change, section lines, property lines with names and addresses of adjoining landowners, drainage area, a north arrow, a bar scale, and any other prominent features;

(b) a detailed plan view of the project with stationing shown, including as many other views as necessary to fully describe the project;

(c) a profile drawing along the centerline of the proposed new channel. This profile shall extend five times the channel width upstream and an equivalent distance downstream from each end of the new channel. The stationing shown on the plan view shall correspond to stationing on the profile drawing. This drawing shall show the present ground surface, the present stream bed, and the grade line of the proposed new channel;

(d) cross sections of the existing stream at locations immediately above and below the proposed channel change. The location of these cross sections shall be described and shown on the plans. The elevations of the top of the existing banks and bottom of the channel shall be shown;

(e) at least one permanent bench mark conveniently located for use after construction, except for grassed waterways constructed for the purpose of conveying runoff without causing erosion or flooding. The location, description, and elevation of the permanent bench mark, to which all elevations are referred, shall be shown on the plans. The designer shall reference the project bench mark to the current national geodetic vertical datum, to a tolerance of plus or minus ½ foot on all channel changes involving perennial streams and where detailed floodplain data are available. Project datum shall be acceptable on all other channel changes; and

(f) a cross-sectional drawing of the proposed new channel, including dimensions. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1987; amended Sept. 22, 2000.)

5-41-2. Channel changes; water velocity. The new channel shall have a conveyance capacity equal to or greater than the old channel. The water velocity after the completion of the

proposed channel change or stream obstruction shall not exceed a permissive velocity. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-41-3. Channel changes; side slopes.

The side slopes of the proposed new channel shall not be steeper than one foot vertical to two feet horizontal unless the applicant submits data and analysis to show that a steeper slope will be stable. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-41-4. Channel changes; construction by erosion. New channels shall not be constructed by erosion. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-41-5. Channel changes; disposal of excavated material. (a) Material removed from the newly excavated channel shall be deposited at a location and in a form acceptable to the chief engineer. If the material is to be deposited so that it will have the effect of a levee, a separate prior written approval of the chief engineer is required pursuant to K.S.A. 24-126.

(b) Filling or plugging the original channel shall receive the prior written approval of the chief engineer. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-41-6. Channel changes; vegetative strips on new channels. On each new channel project, except a grassed waterway constructed for the purpose of conveying runoff without causing erosion or flooding, a vegetative strip shall be established and maintained for a width of 50 feet immediately adjoining the channel on each side of the stream if site conditions permit, unless an acceptable engineering design shows that a greater or lesser width of vegetative strip is preferable. The general type of vegetation shall be approved by the chief engineer. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987; amended Sept. 22, 2000.)

**Article 42.—DESIGN
OF STREAM OBSTRUCTIONS**

5-42-1. Stream obstructions; plans and specifications. (a) The plans required for a permit for a stream obstruction pursuant to K.S.A. 82a-301, and amendments thereto, shall include the following:

(1) A general location map or aerial photograph showing the stream, location of the proposed obstruction, sufficient detail to locate the proposed construction site, section lines, a bar scale, a north arrow, property lines with the names and addresses of adjoining landowners and any other landowners whose land may be hydraulically affected by the proposed stream obstruction, drainage area, and any other prominent features;

(2) a detailed plan view fully describing the obstruction and the site;

(3) the following topographical information, which shall be provided from streambed elevation to the limits specified in subsection (b):

(A) A profile of the streambed and both banks;

(B) a contour map with a contour interval of no more than two feet; or

(C) cross sections perpendicular to the stream and at intervals of no more than five times the width of the channel;

(4) an elevation view showing the obstruction on a cross section of the stream and the valley up to the post project design flood elevation at the site;

(5) at least one permanent benchmark shall be conveniently located for use after construction. The location, description, and elevation of the permanent benchmark to which all elevations are referred shall be shown on the plans. Reference to the national geodetic vertical datum of 1988, or other acceptable national vertical datum, to a tolerance of plus or minus one-half foot shall be required for all stream obstructions on perennial streams and all other streams where base flood elevations have been determined and are shown on flood insurance rate maps. An assumed project datum shall be acceptable on all other stream obstruction projects;

(6) details of the manner in which the obstruction is to be tied into the bed and banks of the streams;

(7) the land for which easements or rights-of-way are to be acquired if the proposed obstruction affects land other than that owned by the applicant; and

(8) unless it is clear that the impact of the proposed project will be contained within the channel or limited to property under the control of the applicant, a hydraulic analysis determining the preproject and postproject water surface elevations for the 50 percent-chance flood and the one percent-chance flood shall be prepared and submitted to the chief engineer.

(b)(1) If it is clear that the impact of the proposed stream obstruction will be contained within the channel or limited to property under the control of the applicant, the topographical information upstream of the stream obstruction required in paragraph (a)(3) shall be required to either of the following, whichever is lower:

(A) The elevation of the highest point on the proposed obstruction; or

(B) the elevation of the one percent-chance flood water surface.

The applicant shall not be required to show topographical information for any property not under the control of the applicant.

(2) If it is not clear that the impact of the proposed project will be contained within the channel or limited to property under the control of the applicant, the topographical information upstream of the stream obstruction required in paragraph (a)(3) shall be provided from streambed elevation up to the elevation of the one percent-chance flood water surface upstream of the stream obstruction.

(3) The topographical information required in paragraph (a)(3) and subsection (b) shall be provided downstream of each proposed stream obstruction for a distance equal to five times the width of the channel at the proposed site of the stream obstruction or 50 feet downstream from the toe of the stream obstruction, whichever is greater.

(c) Each application for a permit to construct a stream obstruction shall include the following specifications:

(1) Each major element in the construction of the obstruction;

(2) the minimum quality of workmanship that is acceptable to construct the obstruction;

(3) the minimum quality of materials that is acceptable to construct the obstruction; and

(4) the materials proposed to be used to construct the obstruction.

(d) The specifications shall meet the following requirements:

(1) Be clear, legible, and shown in sufficient detail to assure that the work can be properly constructed; and

(2) be shown on the plans, in the design report, or on a separate document.

(e) If the Kansas department of transportation (KDOT) standard construction specifications meet all of the requirements of this regulation and are to be enforced during construction, referenc-

ing those specifications on the plans shall be sufficient to comply with this regulation.

(f) If the standard construction specifications of a city or county in Kansas meet the following requirements, then referencing those specifications on the plans shall be sufficient to comply with this regulation:

(1) Meet all the requirements of this regulation;

(2) are to be enforced during construction; and

(3)(A) Have been provided to the chief engineer; or

(B) are readily available at no cost from the city or county that utilizes the specifications. (Authorized by K.S.A. 2006 Supp. 82a-303a; implementing K.S.A. 2006 Supp. 82a-301, 82a-302, and 82a-303a; effective May 1, 1987; amended, T-5-12-30-91, Dec. 30, 1991; amended April 27, 1992; amended May 18, 2007.)

5-42-2. Stream obstruction; minor. If a proposed stream obstruction will not decrease the cross sectional area of a stream channel at the location of the obstruction by more than 15 percent, the plans required by the chief engineer shall be equivalent to the type submitted to the United States corps of engineers with applications for a department of the army permit. Such obstructions shall include weirs, causeways, low-water crossings, low-head dams, intake structures, boat launching ramps, pipeline crossings, outfall structures, marinas, boat docks, jetties and revetments. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-42-3. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987; amended April 27, 1992; revoked Sept. 22, 2000.)

5-42-4. Stream obstruction; temporary structure. A temporary structure shall not require a stream obstruction permit from the chief engineer pursuant to K.S.A. 82a-301 et seq. and amendments thereto if it meets all of the following criteria:

(a) The structure is temporary in nature.

(b) The structure is constructed only of temporary materials, including local streambed materials, straw or hay bales, plastic, or plywood, that are likely to wash out during a bank-full storm event.

(c) The structure is actively maintained only during the duration of the temporary beneficial use.

(d) The structure is less than two feet in height

above the natural bed of the stream, and alterations to the stream and alterations to the stream bank are no more than are necessary for permitting access to the site for operation and maintenance.

(e) The structure is below the natural low bank of the stream.

(f) Any water backed up by the structure is detained solely on property under the control of the landowner that constructed the temporary structure.

(g) The structure does not materially adversely affect the public interest, public safety, or environment. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective Sept. 22, 2000.)

5-42-5. Determining the peak discharge of a one percent-chance storm. In determining the flow magnitude of a design storm, the applicant shall use one of the following methods. (a) For drainage areas of less than 640 acres, use of the rational formula shall be acceptable.

The rational formula is $Q = CIA$

Where C = the runoff coefficient

I = the intensity of rainfall, in inches per hour

A = the drainage area, in acres.

(b) For any drainage area, the flow magnitude of a design storm may be determined by using one of the methods in the following:

(1) "Estimation of peak streamflows for unregulated rural streams in Kansas," water-resources investigations report 00-4079, published by the United States geological survey in 2000, which is hereby adopted by reference;

(2) "urban hydrology for small watersheds," technical release 55, published by the natural resources conservation service and dated June 1986, which is hereby adopted by reference; and

(3) "computer program for project formulation," technical release 20, published by the natural resources conservation service, United States department of agriculture, and dated October 2004, which is hereby adopted by reference.

(c) For streams for which sufficient stream gaging data is available, the applicant may use sound engineering principles and commonly accepted engineering practices to estimate the peak one percent-chance discharge from the gage record.

(d) A method other than the methods specified in subsections (a), (b), and (c) may be used to determine the one percent-chance storm discharge if the method meets both of the following criteria:

(1) The method is based on sound engineering

principles and commonly accepted engineering practices.

(2) The method has been previously approved, in writing, by the chief engineer. (Authorized by and implementing K.S.A. 2006 Supp. 82a-303a; effective May 18, 2007.)

Article 43.—SAND DREDGING PERMITS

5-43-1. Sand dredging operation; plans and specifications. Plans for a sand dredging operation from a stream shall include: (a) A general location map or aerial photograph showing the stream, location of the proposed sand dredging operation, section lines, property lines with names and addresses of adjoining landowners, local access roads, a bar scale, a north arrow and any other prominent features;

(b) a plat of the area within which the sand plant will be operated, prepared to a scale of 200 feet per inch, or less, if necessary to show in detail the features of the stream at the location. The plat shall include at least one permanent bench mark. The survey shall also include at least two permanent horizontal control points on a baseline running generally parallel to the stream. These permanent points shall be identified with substantial markers and shall be easily visible in the field. The plat shall show the location of the natural banks on both sides of the stream, all islands, sand bars, and the direction of the stream within the channel. Where county commissioners have established bank lines along a stream in accordance with the provisions of K.S.A. 82a-307a, the location of such established bank lines shall be shown. The plat shall also show the proposed location of the tipple, boundaries of areas from which material will be removed and the area to which rejected material will be returned;

(c) cross sections of the channel, measured along lines at right angles to the general direction of the stream and plotted to a horizontal scale of not more than 200 feet per inch and an appropriate vertical scale. Typical cross sections shall be shown for unobstructed portions of the channel as well as for portions in which islands, sand bars or other obstructions may be located. The elevation of the top of both banks, the bed of the stream, and the surface of islands and bars shall be shown on the cross sections. The location of lines along which cross sections are measured shall be referred to the baseline and indicated on the plat. All elevations shall be referred to a per-

manent bench mark, which is referenced to the national geodetic vertical datum of 1929 to a tolerance of plus or minus one half foot; and

(d) a statement of plan of operation. A brief paragraph shall be included explaining the plants usual operating plans. The kind of equipment, pumping capacities, seasonal limitations and any other operational constrictions shall be included. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1987.)

5-43-2. Sand dredging; buffer zone. There shall be a buffer zone of not less than 500 feet between dredging operations, and between dredging operations and all bridges. There shall be a buffer zone of 300 feet between dredging operations and buried pipeline or cable crossings. There shall be a buffer zone of 200 feet between dredging operations and levees, or other features subject to damage by undercutting. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-43-3. Sand dredging; operation. In counties at locations where bank lines have been established on designated streams pursuant to K.S.A. 82a-307, materials shall be removed only between established bank lines. The chief engineer, for good cause, may allow excavation or removal of material landward from established bank lines if approval is also obtained from the board of county commissioner. On navigable streams materials shall be removed only from the channel and in such a manner so as not to degrade the banks. On all other streams, materials shall be removed only from areas and in a manner approved by the chief engineer. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

5-43-4. Sand dredging; operations conflicting. If more than one operator proposes to operate within a given reach of a private stream, then all conflicting applicants shall be required to submit proof of easements or other legal authority to operate. If more than one operator proposes to operate within a given reach of a navigable stream, the chief engineer shall determine which operators shall be permitted, based on the following criteria: (a) The capability of the applicant's equipment to operate within the desired area;

- (b) the applicant's need for the material;
- (c) the applicant's existing operation, if any;

(d) the anticipated date the applicant will begin operation;

- (e) the applicant's history of operation;
- (f) the anticipated plant completion date;
- (g) proof of the applicant's easements and right-of-ways necessary to operate;
- (h) date of application; and
- (i) any other relevant factor. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-302; effective May 1, 1987.)

5-43-5. Sand dredging; operation setback. Sand dredging operations located outside the channel of a stream shall be set back a minimum of 50 feet from the bank of the channel. There shall be a minimum slope on the sand plant side of not greater than one foot vertical to four feet horizontal. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective May 1, 1987.)

Article 44.—FLOODPLAIN MANAGEMENT

5-44-1. Floodplain management; definitions. As used in these regulations, K.S.A. 12-766, and by the division of water resources in administering K.S.A. 12-766, unless the context clearly requires otherwise, the following words and phrases shall have the meaning ascribed to them in this section: (a) "Basement" means any area of a building having its floor subgrade (below ground level) on all sides.

(b) "Chief engineer" means the chief engineer of the division of water resources, Kansas state board of agriculture.

(c) "Development" means any man-made change to real estate, including, but not limited to:

- (1) buildings or other structures;
- (2) mining;
- (3) dredging;
- (4) filling;
- (5) grading;
- (6) paving;
- (7) excavation or drilling; or
- (8) storage of equipment or materials.

(d) "Flood or flooding" means a general and temporary condition of partial or complete inundation of normally dry land from:

- (1) the overflow of waters normally confined between the banks of a stream or other water-course, or

(2) the unusual, rapid accumulation or runoff of surface waters from any source.

(e) “Regulatory floodway” means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot.

(f) “Lowest floor” means the lowest enclosed area, including a basement, of a building. An unfinished or flood resistant enclosure usable solely for parking of vehicles, building access or storage in an area other than a basement is not considered a building’s lowest floor.

(g) “Permit” means a signed document from a designated community official authorizing development in a floodplain, including all necessary supporting documentation such as:

- (1) the site plan;
- (2) an elevation certificate; and
- (3) any other necessary or applicable approvals or authorizations from local, state or federal authorities.

(h) “Structure” means a walled and roofed building, a manufactured house, or above ground gas or liquid storage tank.

(i) “Substantially improved” means any reconstruction, rehabilitation, addition to or other improvement of a structure, the cost of which equals or exceeds 50% of the market value of the structure before the improvement.

(j) “Variance” means a grant of relief by a community from the terms of a floodplain management zoning regulation.

(k) “Flood hazard map” means the document adopted by the governing body showing the limits of:

- (1) the floodplain;
- (2) the floodway;
- (3) streets;
- (4) stream channel; and
- (5) other geographic features.

(Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-2. Floodplain management; conditions for application for approval. Before formal adoption by the governing body of any zoning regulation that establishes a floodplain zone or district, or regulates the development within a floodplain zone or district, the governing body shall apply to the chief engineer for approval of

the zoning regulations. The governing body shall also apply to the chief engineer for approval of its zoning regulation when: (a) the governing body enters into, or alters its status under, the national flood insurance program;

(b) the governing body adopts a new or revised flood hazard map, base flood elevations, flood insurance study, or regulatory floodway;

(c) the governing body annexes areas containing floodplain;

(d) the governing body assumes administrative jurisdiction over the adjacent floodplain areas outside the governing body’s boundaries; or

(e) the governing body changes variance procedures used in granting relief from floodplain regulations. (Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-3. Floodplain management; application for approval of zoning regulations; time limit. (a) The application for approval of zoning regulations shall consist of:

- (1) a letter which:

(A) requests approval by the chief engineer under K.S.A. 12-766 on a proposed effective date, which shall not be prior to the approval by the chief engineer;

(B) proposes the date of adoption by the governing body; and

(C) states the reason for application for approval as enumerated in K.A.R. 5-44-2;

(2) a copy of the full text of the zoning regulation including maps, plans, profiles and specifications adopted by the floodplain management zoning regulations which meet the requirements of K.A.R. 5-44-4.

(b) When all the data required by the chief engineer is received, the chief engineer shall notify the governing body in writing as to the beginning and ending dates of the 90 day statutory time period for review. (Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-4. Floodplain management; zoning regulations; minimum standards and criteria.

Any zoning regulation which regulates development of floodplains shall include the following minimum standards and criteria: (a) Flood hazard areas shall be identified as follows:

(1) The flood hazard area subject to floodplain management zoning regulation shall be identified by reference to a specific map used to identify the

flood hazard. The identification of the map shall include the preparer of the map and the date it was prepared.

(2) When the flood hazard map is revised and republished with a new effective date, the governing body's floodplain management zoning regulations shall amend the zoning regulations to adopt the new map by reference.

(b) The development standards shall meet or exceed the minimum requirements of the national flood insurance act of 1968, as amended, 42 U.S.C. Section 4001 *et seq.* and the regulations adopted pursuant to that act.

(c) Any development standards adopted by the governing body for which minimal requirements have been set by the chief engineer in K.A.R. 5-45-1 *et seq.* shall meet or exceed the requirements of the chief engineer.

(d) The governing body shall designate a local floodplain administrator by position or job title. The local floodplain administrator's responsibilities shall include:

(1) the review and issuance of floodplain development permits;

(2) the conduct or direction of appropriate inspections;

(3) the maintenance of any records necessary to document compliance with floodplain development permit conditions; and

(4) any other matters deemed appropriate by the governing body.

(e) The governing body shall designate by position or job title an enforcement officer who is responsible to enforce the actions of the local floodplain administrator.

(f) The local floodplain administrator and enforcement officer may be combined in a single position or job title.

(g) If any part of a proposed development is located within the floodplain, an application for floodplain development permit shall be made to the local floodplain administrator. The application for a floodplain development permit shall contain:

(1) Sufficient detail for the local floodplain administrator to determine the nature of proposed development and whether permits or approvals are needed from the governing body, state or federal authorities, especially any permits or approvals that may be required by K.S.A. 24-126 or K.S.A. 82a-301 *et seq.* and their respective regulations; and

(2) Written documentation of adequate pro-

tection from damages which could be caused by the base flood.

(h) If the proposed residential development will be located in an area designated as zone AO on a flood insurance rate map (FIRM), any new or substantially improved residential structure shall have the lowest floor (including the basement) elevated above the highest adjacent natural grade at least as high as the depth number specified in feet on the FIRM. If no depth number is specified on the FIRM, it shall be elevated at least two feet above the highest adjacent natural grade.

(i) If the proposed non-residential development will be located in an area designated as zone AO on a FIRM, any new or substantially improved non-residential structure shall be dry flood proofed or elevated to at least as high as the depth number specified in feet on the FIRM above the highest adjacent natural grade. If no depth number is specified on the FIRM, it shall be dry flood proofed or elevated at least two feet above the highest adjacent natural grade.

(j) If zone AO is not specified on the FIRM, or the proposed development will be located in the floodplain outside zone AO, then the lowest floor of any new or substantially improved residential structure shall be elevated at least one foot above the base flood elevation. The elevation of the lowest floor shall be certified by a licensed land surveyor.

(k) If zone AO is not specified on the FIRM, or the proposed development will be located in the floodplain outside zone AO, then any new or substantially improved non-residential structure shall be dry flood proofed or elevated to at least one foot above the base flood elevation. The elevation of the lowest floor shall be certified by a licensed land surveyor. If the structure is dry flood proofed, a licensed architect or a licensed professional engineer shall certify that the design and methods of construction of the dry flood proofing meet or exceed the minimum requirements of the national flood insurance act of 1968, as amended, 42 U.S.C. Section 4001 *et seq.* and the regulations adopted pursuant to that act. (Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-5. Floodplain management; variance procedures. Any floodplain management zoning regulations shall include procedures for the approval of a variance to the floodplain management zoning regulations. The procedures shall

stipulate the criteria for a variance and specify when a variance may be granted by the local floodplain administrator, the enforcement officer or board of zoning appeals. The procedures shall establish a board of zoning appeals for hearing appeals of decisions of the floodplain administrator or enforcement officer and establish the criteria for the appeals. Variances shall not be granted solely to avoid the requirements of a floodplain development permit. (Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-6. Floodplain management; waiver or stricter requirements. (a) The chief engineer may waive any of the regulations adopted under this article if it is shown to the satisfaction of the chief engineer that waiver of the regulation will not pose a hazard to the public safety and that such waiver is not adverse to the public interest.

(b) The chief engineer may invoke any jurisdiction granted by statute to impose stricter requirements than those required by rules and regulations where such jurisdiction or additional requirements are necessary to protect the public interest, protect the public safety or prevent damage to public or private property. (Authorized by and implementing K.S.A. 12-766; effective, T-5-12-30-91, Jan. 1, 1992; effective Feb. 17, 1992.)

5-44-7. Certification of elevations. Any elevation required to be certified to meet the requirements of this article of regulations may be certified by either a licensed land surveyor or a licensed professional engineer. (Authorized by and implementing K.S.A. 2006 Supp. 12-766; effective May 18, 2007.)

Article 45.—DESIGN OF LEVEES

5-45-1. Levees and floodplain fills; definitions. As used in K.S.A. 24-126 and amendments thereto, in the regulations adopted pursuant to that statute, and by the division of water resources in administering K.S.A. 24-126 and amendments thereto, unless the context clearly requires otherwise, the following words and phrases shall have the meanings specified in this regulation: (a) “Approval” means the written approval of plans and specifications by the chief engineer authorizing the applicant to proceed with the construction and maintenance of a levee or floodplain fill project.

(b) “Authorized representative” means any staff

employee designated by the chief engineer to perform duties and functions on behalf of the chief engineer.

(c) “Base flood” means a flood having a one percent chance of being equaled or exceeded in any one year.

(d) “Benchmark” means a reference point or object of known elevation and location that is not expected to move horizontally or vertically during the life of the project.

(e) “Chief engineer” means the chief engineer, division of water resources, Kansas department of agriculture.

(f) “Design flood” means a flood having a selected probability of being equaled or exceeded in any one year for the degree of protection required.

(g) “Environmental mitigation” means any of the following:

(1) Site-specific modification of a project;

(2) implementation of a practice or management; or

(3) the reservation of a part of the project to protect or replace environmental values destroyed or adversely affected by the project.

(h) “Equal and opposite conveyance” means the location of development offsets from stream banks so that floodplain lands on each side of a stream outside the stream channel convey a share of the flood flows proportionate to the total conveyance available on each respective side of the stream.

(i) “Floodplain” means the land in and adjacent to a stream that is inundated by a base flood.

(j) “Floodplain fill” means material, usually soil, rock, or rubble, that is placed in a floodplain to an average height of greater than one foot above the existing ground and that has the effect of diverting, restricting, or raising the level of floodwaters on a stream.

(k) “Floodway” means the channel of a stream and adjacent land areas that have been determined as being necessary to convey the base flood, as calculated using the minimum requirements of the national flood insurance act of 1968, 42 U.S.C. 4001 et seq., as amended September 23, 1994, and 44 C.F.R. part 59, subpart A, sec. 59.1 and 44 C.F.R. part 60, subpart A, sec. 60.3, as amended October 1, 2007.

(l) “Floodway fill” means floodplain fills, other than a levee, placed wholly or partially within the boundaries of the floodway at locations where the floodway has been identified.

(m) "Floodway fringe" means those portions of a floodplain outside of the boundaries of a regulatory floodway within reaches of a stream where a floodway has been established.

(n) "Floodway fringe fill" means floodplain fills, other than a levee, placed wholly outside the floodway boundaries at locations where the floodway has been identified.

(o) "Geometric analysis" means a determination of the cross-sectional area of a valley below the base flood elevation that will be blocked by a proposed floodplain fill or levee. The resulting area is then divided by the width of the water surface of the base flood at that location. This value is an estimate of how much the proposed project will increase the base flood elevation.

(p) "Levee" means any floodplain fill with an average height of more than one foot above the surrounding terrain constructed generally parallel to a water course and whose purpose is to repel floodwaters.

(q) "Perennial stream" means a stream, or a part of a stream, that flows continuously during all of the calendar year, except during an extended drought.

(r) "Person" means a natural person, partnership, organization, or other similar entity.

(s) "Safety berm" means a linear soil mound, guardrail, or similar traffic barrier located on the bank of a traffic way to prevent a vehicle from overturning or endangering persons in the vehicle.

(t) "Stream" means any watercourse that has a well-defined bed and well-defined banks and that has a watershed above the point in question marking the site of the project that exceeds the following number of acres in the zones specified:

(1) Zone three: 640 acres for all geographic points within any county west of a line formed by the adjoining eastern boundaries of Phillips, Rooks, Ellis, Rush, Pawnee, Edwards, Kiowa, and Comanche counties;

(2) zone two: 320 acres for all geographic points within any county located east of zone three and west of a line formed by the adjoining eastern boundaries of Republic, Cloud, Ottawa, Saline, McPherson, Reno, Kingman, and Harper counties; and

(3) zone one: 240 acres for all geographic points within any county located east of zone two.

The flow of a stream is not necessarily continuous and can occur only briefly after a rain in the watershed. If the site of the project has been al-

tered so that a determination of whether the well-defined bed and banks did exist is not possible, it shall be presumed that the bed and banks did exist if the watershed acreage criteria specified in this subsection have been met, unless the owner of the project conclusively demonstrates that the well-defined bed and banks did not exist when the project site was in its natural state and had not yet been altered by human activity.

(u) "Unconsolidated material storage stockpile" and "UMSS" mean a collection of material that is placed in a floodplain to an average height of greater than one foot above the existing ground, has the potential to divert, restrict, or cause an unreasonable effect on a base flood, and is one of the following:

(1) A pile of sand or gravel that meets all of the following requirements:

(A) Is not mechanically compacted;

(B) is not cemented together;

(C) is not covered or coated with a substance increasing the structural integrity of the pile; and
(D) is not placed as fill for grading or a foundation; or

(2) a pile of nonsoil material consisting of discrete units meeting all of the following requirements:

(A) Are not fastened or cemented together;

(B) are not anchored to the ground;

(C) are not mechanically compacted; and

(D) are not dense enough or arranged in a manner to resist the hydraulic force of a base flood.

(v) "Unreasonable effect," if caused by a levee or floodplain fill, means any of the following:

(1) An increase in the elevation of the design and base flood profiles of more than one foot at any location outside a floodway;

(2) any increase in the elevation of the design and base flood profiles within a floodway; or

(3) a cumulative increase of more than one foot in the elevation of the design and base flood profiles.

(w) "Watershed" means all of the area draining toward a selected point on a stream. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992; amended Sept. 22, 2000; amended Oct. 3, 2008.)

5-45-2. Levees and floodplain fills; plans and specifications. Plans for a levee or a floodplain fill must be submitted on clearly legible prints (maximum size 24 inches by 36 inches) of

the original tracings which are capable of reproduction. Plans for a levee or a floodplain fill shall include: (a) A general location map or aerial photograph showing:

- (1) the stream;
- (2) location of the proposed levee or floodplain fill;
- (3) floodway limits where available;
- (4) floodplain limits where available;
- (5) section lines;
- (6) property lines with names and addresses of adjoining landowners and any other landowners whose land may be hydraulically affected by the proposed levee or floodplain fill;

- (7) drainage area;
- (8) a bar scale;
- (9) a north arrow;
- (10) existing and proposed surface drainage flow patterns; and

- (11) any other prominent features;
- (b) a detailed plan view fully describing the levee or floodplain fill and the site, including:

- (1) the design flood elevation and frequency;
- (2) the base flood or floodplain limits where available;

- (3) floodway limits where available;
- (4) two-foot ground contours of the levee or floodplain fill and areas with local drainage problems; and

- (5) the area reserved for environmental mitigation with a description of any necessary environmental mitigation measures to be implemented, if those measures may affect the hydraulics used to evaluate the project;

- (c) a profile showing the proposed elevation of the top and base of the levee or floodplain fill, the design flood, the base flood, the stream bed and both banks;

- (d) an elevation view at the most hydraulically restrictive location in the valley affected by the project, showing the levee or floodplain fill on a cross section of the stream and the valley up to the post project base flood elevation at the site. This cross section shall show:

- (1) the stream;
- (2) floodway limits where available;
- (3) floodplain limits where available;
- (4) base flood elevation; and
- (5) design flood elevation;

- (e) at least one permanent benchmark conveniently located for use after construction. The benchmark shall be placed where it is not likely to be destroyed. A three foot minimum length of

pipe or steel driven flush with the ground in an area which is unlikely to be disturbed may be used. Wood or plastic stakes, nails or marks in trees shall not be considered as permanent benchmarks. The location and description of the benchmark shall be shown on the plans. They shall be properly referenced so they can be easily found in the field. The location, description and elevation of the permanent benchmark shall be shown on the plans. The benchmark may be a benchmark identified in the community's flood insurance rate map if the benchmark is less than 500 feet from the fill. Reference to the national geodetic vertical datum of 1988, or other acceptable national vertical datum, to a tolerance of plus or minus one half foot is required for all levees and floodplain fills on perennial streams. Reference to a tolerance of 0.05 foot is required where detailed floodplain data are available. Project datum is acceptable on all other levee and floodplain fill projects; and

- (f) the land for which easements or rights-of-way have been acquired when the proposed levee or floodplain fill will affect land other than that owned by the applicant. (Authorized by and implementing K.S.A. 1991 Supp. 24-126; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992.)

5-45-3. Levees and floodplain fills; specifications. The specifications for levees and floodplain fills shall be prepared on 8½ by 11 inch sheets of a good grade of white bond paper. The specifications shall be in sufficient detail to assure that the works will be properly executed and shall comply with currently accepted engineering practices. The specifications shall include provisions for: (a) adequate supervision during the period of construction by a person qualified to design the levee or floodplain fill;

- (b) notification of the division of water resources of the status of construction; and

- (c) inspection by a representative of the division of water resources. (Authorized by and implementing K.S.A. 24-126 as amended by L. 1991, ch. 56, sec. 27; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992.)

5-45-4. Levees and floodplain fills; preparer of maps, plans, profiles, and specifications. In addition to the requirements of the Kansas board of technical professions, the following requirements shall apply: (a) Each map, plan, profile, and specification submitted to the chief en-

gineer for approval pursuant to K.S.A. 24-126 and amendments thereto shall be prepared by a person who is competent in levee or floodplain fill design and construction.

(b) Map, plans, profiles, and specifications for any of the following described levees and floodplain fills shall be prepared by a licensed professional engineer that is competent in levee or floodplain fill design and construction:

- (1) Class C levees;
- (2) floodplain fills located in whole or in part in identified floodways; and
- (3) floodplain fills, except safety berms and UMSSs, that meet the following criteria:
 - (A) Are located in areas without a designated floodway;
 - (B) are greater than 3,200 cubic yards in volume;
 - (C) are more than four feet in height; and
 - (D) are more than 100 feet from other floodplain fills.

(c) No provision of this regulation, and no decision made by the chief engineer pursuant to this regulation, shall alter the responsibilities or duties of any licensee of the Kansas board of technical professions to comply with that board's requirements. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992; amended Sept. 22, 2000; amended Oct. 3, 2008.)

5-45-5. Levees; waiver and stricter requirements. The chief engineer may waive any of the regulations adopted under this article if it is shown to the satisfaction of the chief engineer that the waiver of the regulation will not pose a hazard to the public safety and that the waiver is in the public interest. The chief engineer may also invoke any jurisdiction granted by statute to impose stricter requirements than those required by rules and regulations where such jurisdiction or additional requirements are necessary to protect the public interest, protect the public safety or prevent damage to property. (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987.)

5-45-6. Levees and floodplain fills; other maps, plans, profiles, data and specifications. The applicant shall also submit any other maps, plans, profiles and specifications of the levee or floodplain fill project and any other data which the chief engineer may require. (Authorized by and implementing K.S.A. 24-126 as amended by L.

1991, ch. 56, sec. 27; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992.)

5-45-7. Levees and floodplain fills; application. (a) The application for approval of plans to construct a levee or floodplain fill shall be filed on the form(s) prescribed by the chief engineer, including application supplements, and shall be completed in proper form according to the instructions. To be complete, the application shall include:

- (1) application DWR No. 3-100.1;
- (2) the application supplement, DWR Form No. 2-102;
- (3) plans fully complying with requirements of K.A.R. 5-45-2;
- (4) specifications fully complying with requirements of K.A.R. 5-45-3; and
- (5) a copy of an application to the governing body for a floodplain development permit, if the proposed levee or floodplain fill will change the limits of the floodplain or floodway boundaries, or both.

(b) The statutory time limit on the chief engineer's deliberation for approval for floodway fringe fills shall not begin until the application is complete. When such a floodway fringe fill application is received by the chief engineer, it will be reviewed to determine whether or not it is complete. If the application is complete, the chief engineer will notify the applicant when the 90-day review period began and will end. If the application is not complete, the additional information will be requested and the applicant informed that the 90-day statutory review period has not yet begun. For a floodway fringe fill application, when comments are received as a result of the water projects environmental coordination act review under K.S.A. 82a-325, et seq., which require modification of the plans, the 90-day statutory time limit shall be suspended from the time the modifications are requested by the chief engineer until satisfactory modifications of the plans are received by the division of water resources. When the appropriate modifications have been received, the 90-day time limit will begin again with the same number of days remaining as were remaining at the time of the suspension. The applicant shall be notified in writing as to the dates of the suspension and restart of the 90-day time limit. (Authorized by and implementing K.S.A. 1991 Supp. 24-126;

effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992.)

5-45-8. Levees; hazard classes. The following levee hazard classes are established: (a) Class A levee—failure of levee may allow damage to farm buildings, limited agricultural grounds or private roads.

(b) Class B levee—failure of levee may endanger extensive agricultural land, or damage isolated homes, secondary highways or minor railroads.

(c) Class C levee—failure of levee may cause loss of life, or cause serious damage to private, commercial or public property. (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987.)

5-45-9. Levees; design storm flow determination. (a) In determining design storm flow magnitude, the applicant shall use an accepted engineering method.

(b) For drainage areas of less than 2 square miles the following methods are acceptable, where appropriate: (1) The rational formula for flow magnitude determination when used according to the following formula:

$$Q = CIA$$

Where C = the runoff coefficient
I = intensity of rainfall in inches per hour and
A = drainage area in acres.

To determine the proper intensity of rainfall for use with the formula, first determine the appropriate total rainfall from "Technical Paper Number 40, Rainfall Frequency Atlas of the United States, *Department of Commerce*, May 1961," and the time of concentration from the Kirpich nomograph and then obtain the intensity from the standard rainfall intensity-duration curves;

(2) The SCS method for estimating direct runoff, United States department of agriculture, soil conservation service;

(3) "Technical Release 55, Hydrology for Urban Areas, *United States Department of Agriculture, Soil Conservation Service*."

(c) For drainage areas two square miles or greater, the following methods of determining flow magnitude shall be acceptable, where appropriate: (1) the publication "Magnitude and Frequency of Floods in Kansas, Unregulated Streams, Technical Report 11, *Kansas Water Resources Board*, February 1975";

(2) "Technical Release 20, Computer Program for Project Formulation, Hydrology, *United States*

Department of Agriculture, Soil Conservation Service"; or

(3) "HEC-1 Flood Hydrograph Package, *Corps of Engineers Hydrologic Engineering Center*." (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987.)

5-45-10. Levees; design criteria. Design for levees shall meet or exceed the following criteria: (a) Class A levee—the levee shall safely repel the appropriate design storm.

(b) Class B levee—the levee shall safely repel at least the ten year design storm.

(c) Class C levee—the levee shall safely repel at least the 100 year design storm. For class C levees the applicant shall submit complete water surface water profiles of both the ten and 100 year events, both before and after construction. (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987.)

5-45-11. Levees; freeboard requirements. (a) Levees not within a floodway designated by the chief engineer are required to have the following freeboard:

<i>Design flood frequency</i>	<i>Freeboard required</i>
10 years	1 foot
25 years	2 feet
50 years or more	3 feet

(b) Levees constructed within a floodway designated by the chief engineer shall have a freeboard requirement designated on a site specific basis. (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987.)

5-45-12. Levees and floodplain fills; setback. Except for highway and road crossings of streams, the minimum setback distance from the top of the stream bank to the nearest toe of the levee or the edge of the floodplain fill shall be 100 feet, or twice the width of the stream measured from the top of one bank to the top of the opposite bank, whichever distance is less, unless the applicant demonstrates that adequate bank protection will be utilized. (Authorized by and implementing K.S.A. 1991 Supp. 24-126; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992.)

5-45-13. Levees; floodplain fills; unreasonable effect. (a) Except as set forth in subsection (b), no plans for any levee or floodplain fill that has an unreasonable effect on another shall be approved by the chief engineer. An unreason-

able effect caused by a levee or floodplain fill shall be deemed any of the following:

(1) An increase in the elevation of the design and base flood profiles of more than one foot at any location outside a floodway;

(2) any increase in the elevation of the design and base flood profiles within a floodway; or

(3) a cumulative increase of more than one foot in the elevation of the design and base flood profiles.

(b) A levee or floodplain fill that has an unreasonable effect on another may be approved by the chief engineer subject to any conditions necessary to protect the public interest if either of the following criteria is met:

(1) The applicant demonstrates to the chief engineer that the applicant has obtained legal authorization from any landowner whose land is unreasonably hydraulically affected by a greater increase in the elevation of the design and base flood profile.

(2) The following conditions are met:

(A) The owner of the undeveloped, unplatted land that will be hydraulically affected by an increase in the design and base flood profiles of more than one foot by a federal or state cost-shared roadfill, bridge, or culvert replacement project has been notified of the proposed hydraulic effects by the chief engineer.

(B) The owner has failed to object within the time limit set forth in the notice.

(C) The chief engineer determines that the increase will not be likely to materially damage the private or public property. (Authorized by and implementing K.S.A. 24-126; effective May 1, 1987; amended, T-5-12-30-91, Jan. 1, 1992; amended April 27, 1992; amended Sept. 22, 2000.)

5-45-14. Levees and floodplain fills; hydrologic and hydraulic analysis. (a) The applicant shall submit a hydrologic and hydraulic analysis for every levee and floodplain fill project except floodway fringe fill projects and those levee projects and floodplain fill projects not identified in K.A.R. 5-45-4(b). The hydrologic and hydraulic analysis shall include the design and base floods for main streams, tributary streams, and local drainage, describing the existing and proposed conditions with the application and plans.

(b) The effect of a proposed levee or floodplain fill shall be calculated by the technique of equal conveyance reduction, except as provided in sub-

sections (c) and (d), unless it meets either of the following criteria:

(1) The applicant demonstrates that the applicant has obtained legal authorization from any landowner whose land is unreasonably hydraulically affected by a greater encroachment toward the channel.

(2) The following conditions are met:

(A) The owner of the undeveloped, unplatted land that will be hydraulically affected by an increase in the elevation of the base flood profile of more than one foot by a federal or state cost-shared roadfill, bridge, or culvert project has been notified of the proposed hydraulic effects by the chief engineer.

(B) The owner has failed to object within the time limit set forth in the notice.

(C) The chief engineer determines that the increase will not be likely to materially damage the private or public property.

(c) For a class A or class B levee, the effect of the proposed levee on the design flood profile shall be evaluated with the assumption that an equal setback levee is in place on the opposite side of the stream.

(d) For a class C levee, the effect of the proposed levee on the design flood profile shall be calculated by the technique of equal conveyance reduction from the outer floodplain limits outside the channel, unless the applicant demonstrates that the applicant has obtained legal authorization from all landowners whose land would be unreasonably hydraulically affected by a greater encroachment toward the channel. (Authorized by and implementing K.S.A. 24-126; effective, T-5-12-30-91, Jan. 1, 1992; effective April 27, 1992; amended Sept. 22, 2000.)

5-45-15. Floodplain fills; design criteria. Floodplain fills shall meet or exceed the following design criteria: (a) the sideslopes shall not be steeper than one vertical to three horizontal, unless the applicant submits data and analysis to show that a steeper slope will be stable.

(b) Floodplain fills shall be adequately protected from erosion and undermining from floods up to the level of the base flood elevation and surface drainage by the use of vegetative cover, riprap or other means.

(c) Floodplain fills shall not unreasonably obstruct or divert the flow of surface water and other waters from the main stream and tributaries to the

main stream to the detriment of adjacent or hydraulically affected property owners.

(d) Floodplain fills shall not obstruct utility or other easements without proper authorization.

(e) Floodplain fills shall not unreasonably affect the environment without adequate environmental mitigation.

(f) Floodplain fills, other than levees, for residential buildings, including manufactured housing, are required to be of adequate height to raise the lowest floor, including the basement, at least one foot above the base flood elevation, unless:

(1) an exception has been granted by the flood insurance administrator of the flood insurance administration within the FEMA for the allowance of a basement; or

(2) the chief engineer has approved a community standard at or above base flood elevation.

(g) Floodplain fills other than levees for sewage lagoons and sanitary landfills are required to have at least one foot of freeboard above the base flood.

(h) Except for fills for highways and roads, all other floodplain fills other than levees are required to have at least one foot of freeboard above the design flood.

(i) If subsequent to approval of the floodplain fill by the chief engineer, a letter of map revision or letter of amendment is obtained from FEMA removing an area of the approved or permitted fill from the floodplain, then any permit or approval issued by the chief engineer no longer applies to that area removed from the floodplain. (Authorized by and implementing K.S.A. 1991 Supp. 24-126; effective, T-5-12-30-91, Jan. 1, 1992; effective April 27, 1992.)

5-45-16. Floodplain fills; disapproval.

(a) A levee or floodplain fill should not have an unreasonable effect on adjacent landowners, be adverse to the public interest and environmental concerns or lack required environmental mitigation.

(b) Within six months of the disapproval, the applicant may make a written request to the chief engineer to rescind the disapproval by providing information or modifications of the plans requested by the chief engineer. (Authorized by and implementing K.S.A. 24-126 as amended by L. 1991, ch. 56, sec. 27; effective, T-5-12-30-91, Jan. 1, 1992; effective April 27, 1992.)

5-45-17. Exemption—floodway fringe fills. Floodway fringe fills are exempt from apply-

ing for and obtaining approval from the chief engineer if: (a) they are:

(1) up to 1600 cubic yards in size;

(2) with a maximum height of two feet;

(3) more than 100 feet away from any other floodplain fills; and

(4) constructed according to the design criteria in K.A.R. 5-45-15; or

(b) they are located in communities which have adopted local standards for floodway fringe fills approved by the chief engineer which meet or exceed the standards adopted by the chief engineer for individual floodway fringe fills. The standards shall include an appeal process, an environmental assessment and a review of local drainage. (Authorized by and implementing K.S.A. 1991 Supp. 24-126; effective, T-5-12-30-91, Jan. 1, 1992; effective April 27, 1992.)

5-45-18. Floodplain fills; incidental to bridge and culvert replacement projects. Each floodplain fill constructed incidental to a bridge or culvert replacement project that otherwise meets the requirements of K.A.R. 5-46-1 shall be considered to have the necessary approval of plans pursuant to K.S.A. 24-126, and amendments thereto, and article 45 of the rules and regulations adopted by the Kansas department of agriculture, division of water resources. (Authorized by and implementing K.S.A. 24-126; effective Sept. 22, 2000.)

5-45-19. Unconsolidated material storage stockpiles and safety berms. Except as provided in K.A.R. 5-45-21 and K.A.R. 5-45-22, the prior written approval of the chief engineer shall be required before placing an unconsolidated material storage stockpile in a floodplain or constructing a safety berm in a floodplain. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective Oct. 3, 2008.)

5-45-20. Application to place an unconsolidated material storage stockpile or safety berm. (a) In lieu of the maps, plans, profiles, data, and specifications required for other floodplain fills, each request for approval to place an unconsolidated material storage stockpile (UMSS) or safety berm shall contain the following:

(1) A completed application filed on a form prescribed by the chief engineer; and

(2) the statutorily required filing fee.

(b) If the proposed UMSS or safety berm will be constructed wholly or partially within a flood-

way, the request for approval shall also contain a copy of the no-rise certification, hydraulic analysis, maps, cross sections, and other supporting information required for local governmental approval of a floodway fill pursuant to the following:

(1) 44 C.F.R. 60.3, dated October 1, 2007; and
 (2) the “procedures for ‘no-rise’ certification for proposed development in the regulatory floodway,” dated October 12, 1995, by the federal emergency management agency (FEMA), region VII.

(c) If the proposed UMSS or safety berm will be constructed completely outside a floodway, the request for approval shall also contain the following:

(1) A map or aerial photograph with a scale of not less than one to 3,600 showing the location and extent of the proposed UMSS or safety berm during the initial year of operation and the location and maximum areal extent of the proposed UMSS or safety berm over the life of the project;

(2) a scale drawing of a cross section of the floodplain perpendicular to the stream showing the following:

(A) The streambed;
 (B) the ground surface;
 (C) levees and other features defining the edges of the floodplain;
 (D) the base flood elevation; and

(E) the location of any other levees, floodplain fills, UMSSs, and safety berms at or below the base flood elevation and located within five times the width of the water surface during the base flood or 1,320 feet, whichever is less, of the proposed project both upstream and downstream from the boundaries of the proposed project superimposed on the cross section, using the centerline of the stream as the horizontal reference; and

(3) a geometric analysis, or a more accurate hydraulic analysis, showing that the proposed UMSS or safety berm will not cause an unreasonable effect. The geometric or more accurate analysis shall include the cumulative effects of all existing and proposed levees, floodplain fills, UMSSs, and safety berms located within five times the width of the water surface or 1,320 feet, whichever is less, of the proposed project both upstream and downstream from the boundaries of the proposed project. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective Oct. 3, 2008.)

5-45-21. Safety berm. A safety berm shall

not be deemed a levee or any other such improvement subject to regulation pursuant to K.S.A. 24-126, and amendments thereto, if the safety berm meets one of the conditions in subsection (a) and all of the requirements in subsection (b). (a)(1) The safety berm is a guardrail that would not divert, restrict, or raise the floodwaters of a stream.

(2) The safety berm is at least six inches below the base flood elevation.

(3) The safety berm will contain gaps from the ground surface to the top of the berm spaced at intervals of 100 feet or less. The gaps shall be sufficiently wide to allow floodwaters to breach the safety berm.

(b) The safety berm meets the following requirements:

(1) Does not obstruct normal streamflow;
 (2) does not redirect normal streamflow;
 (3) does not block culverts and drainage channels; and

(4) does not cause other hydraulic problems, including causing an unreasonable effect. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective Oct. 3, 2008.)

5-45-22. Unconsolidated material storage stockpile. An unconsolidated material storage stockpile (UMSS) may exist in a floodplain without the approval of the chief engineer if the UMSS meets one of the conditions in subsection (a) and all of the requirements of subsection (b). (a)(1) The UMSS existed before 1929.

(2) In counties or cities with flood insurance rate maps, the UMSS existed before the creation of the most recent flood hazard map, and the UMSS’s impact on flooding was analyzed in creating the map.

(3) The UMSS existed before January 1, 2006 at a sand and gravel mining site.

(4) The UMSS is located outside a floodway and meets both of the following conditions:

(A) The UMSS will be present at that location for less than 270 days.

(B) The site will be restored to its original condition within 90 days after the UMSS is removed.

(b) The UMSS meets the following requirements:

(1) Does not obstruct normal streamflow;
 (2) does not redirect normal streamflow;
 (3) does not block culverts and drainage channels; and

(4) does not cause other hydraulic problems, including an unreasonable effect.

(c) Each UMSS that is not a levee or any other such improvement subject to regulation pursuant to K.S.A. 24-126, and amendments thereto, except a temporary UMSS meeting the standards of paragraph (a)(4), shall become subject to regulation when the areal extent of the UMSS increases or the location changes in whole or in part. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective Oct. 3, 2008.)

5-45-23. Use of geometric analysis. (a)(1) A geometric analysis shall not be used if any existing or proposed levees or floodplain fills are located, or proposed to be located, within the lesser of the following distances measured from the boundaries of the proposed levee or floodplain fill:

(A) Five times the width of the water surface during a base flood, as measured both upstream and downstream; and

(B) 1,320 feet, as measured both upstream and downstream.

(2) The prohibition specified in paragraph (a)(1) shall not apply if the applicant demonstrates that the effects of the existing or proposed levee or floodplain fill projects are included in the analysis in a technically valid manner.

(b) If the geometric analysis shows that the increase in the base flood elevation that will be caused by the proposed project will cause an unreasonable effect, the applicant shall meet one of the following requirements:

(1) Submit a hydrologic analysis meeting the requirements of K.A.R. 5-45-14 and demonstrating that the proposed project will not cause an unreasonable effect, as determined by the geometric analysis; or

(2) modify the design of the proposed floodplain fill or levee so that the proposed project will not cause an unreasonable effect, as determined by the applicant's geometric or hydrologic analysis. If the project cannot be modified so that it will not cause an unreasonable effect, the application for the approval shall be denied. (Authorized by and implementing K.S.A. 2007 Supp. 24-126; effective Oct. 3, 2008.)

Article 46.—GENERAL PERMITS

5-46-1. General permits; bridge and culvert replacement projects. (a) Except as provided in subsection (e), the construction of any bridge or culvert replacement project with a watershed of 2,560 or more acres in zone one, 3,840 or more acres in zone two, and 5,120 or more

acres in zone three shall meet the criteria in subsection (c) of this regulation. Before construction, the applicant shall apply for and obtain a general permit from the chief engineer. The application shall be filed on a form prescribed by the chief engineer and shall be accompanied by plans or sketches meeting the requirements of K.A.R. 5-42-2.

(b) Except as provided in subsection (e), the construction of any bridge or culvert replacement project with a watershed of fewer than 2,560 acres in zone one, 3,840 acres in zone two, and 5,120 acres in zone three shall meet the criteria in subsection (c) of this regulation. Before construction, the applicant shall properly complete an application for, and receive the consent of, the chief engineer. The application shall be filed on a form prescribed by the chief engineer.

(c) Each bridge replacement and culvert replacement project shall meet all of the following criteria:

(1) The project shall not be a change either in alignment or in the cross section of a stream of more than 200 feet in length on minor streams, and not more than 400 feet in length on moderate or major streams as measured along the original channel. A minor stream is defined as a stream or watercourse that has a mean annual flow of less than five cubic feet per second (cfs). The major streams are the Kansas River, the Arkansas River, and the Missouri River. A moderate stream is defined as a stream or watercourse with a mean annual flow equal to or greater than five cfs, but is not a major stream.

(2) The proposed culvert or bridge replacement shall have the following:

(A) A cross-sectional area at least equivalent to that of the original bridge or culvert for water to flow over, through or around; and

(B) a road grade across the floodplain and approaching the bridge or culvert that is not raised by more than an average of one foot. The average rise of the road grade shall be calculated by measuring the difference between the proposed grade and the existing grade at the beginning and end of each interval of 100 or fewer feet, dividing the sum of the two differences by two and multiplying the mean by the number of feet in the interval. The sum of these calculations from each interval shall then be added together and the total sum divided by the length, in feet, of the road alteration. The average road grade shall not increase by

a cumulative amount of more than one foot since April 11, 1978.

(3) A vegetative strip measuring 50 feet from the bank and outward on each side of a channel change shall be maintained in a manner consistent with the existing riparian vegetation and other design criteria.

(4) The project shall not alter the channel's cross-sectional area by more than 15 percent, nor shall it alter the channel length by more than 10 percent.

(d) If any bridge or culvert replacement project does not meet the requirements of this regulation, the applicant may apply for a nongeneral permit pursuant to K.S.A. 82a-301 et seq., and amendment thereto, before construction.

(e) If any bridge or culvert replacement project does not meet the requirements of this regulation or the chief engineer determines that the project may have an unreasonable effect on the public interest, public safety, or environmental interests, the right to perform the following shall be reserved by the chief engineer:

(1) Require a general permit meeting the requirements of this regulation or a nongeneral permit meeting the requirements of K.S.A. 82a-301 et seq., and amendment thereto, before construction; and

(2) amend, modify, or revoke the prior general permit or consent issued in accordance with this regulation. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective Sept. 22, 2000.)

5-46-3. General permits; sand and gravel removal operations. (a) Before the commencement or continuation of any sand or gravel removal from a site with a drainage area of 50 or more square miles above the site, the removal operation shall meet the criteria in subsection (c) of this regulation. Before the removal of any sand and gravel, the owner shall apply for and obtain a general permit from the chief engineer. The application shall be filed on a form prescribed by the chief engineer and shall be accompanied by plans meeting the requirements of K.A.R. 5-42-2.

(b) If the proposed sand or gravel removal operation meets the criteria set forth in subsection (c) of this regulation and there are fewer than 50 square miles of drainage area above the proposed sand or gravel removal site, a permit shall not be required unless the chief engineer determines

that a permit is necessary to protect the public interest, public safety, or environmental interests.

(c) All sand and gravel operations covered by this regulation shall meet the following criteria:

(1) The sand and gravel removal operation shall be limited to removing a maximum of 100 cubic yards per year from each sand and gravel removal site. Other than bridge maintenance sites, all sand and gravel removal operations on the same stream and its tributaries shall be separated by at least 1,320 feet.

(2) A sand and gravel removal operation shall not be located within the following distances of a bridge, pipeline, cable crossing, levee, or other feature, except when the written permission or easement of the owner of the bridge, pipeline, cable crossing, levee, or other feature is obtained by the applicant, and a written waiver is granted by the chief engineer:

(A) 50 feet of the banks, or in the channels of the Missouri, Kansas, or Arkansas rivers, and 50 feet of the banks, or in the channels of their tributaries, for ½ mile upstream from the mouth of the tributaries;

(B) one mile of a public water supply intake;

(C) 500 feet of a bridge;

(D) 300 feet of a buried pipeline or cable crossing; and

(E) 200 feet of a levee or other feature subject to damage.

(3) Stockpiles of material shall be located in a manner that does not affect the flow of water on the property of any other landowner.

(d) If any sand or gravel removal operation covered by this regulation does not meet the requirements of this regulation, or if the chief engineer determines that the operation may have an unreasonable effect on the public interest, public safety, or environmental interests, the right to perform the following shall be reserved by the chief engineer:

(1) Require a nongeneral permit pursuant to K.S.A. 82a-301 et seq., and amendments thereto; and

(2) amend, modify, or revoke the general permit issued in accordance with this regulation. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective Sept. 22, 2000.)

5-46-4. General permits; pipeline crossings. (a) Before the construction of any pipeline or buried cable crossing of a stream having 50 or more square miles of drainage area above the pro-

posed project site, the project shall meet the requirements of subsection (c) of this regulation. Before construction, the owner shall apply for and obtain a general permit from the chief engineer. The application shall be filed on a form prescribed by the chief engineer.

(b) Any pipeline or buried cable crossings of streams that have fewer than 50 square miles of drainage area above the proposed project site and that meet the requirements of subsection (c) of this regulation shall not be required to have a permit pursuant to K.S.A. 82a-301 et seq., and amendments thereto.

(c) All pipeline or buried cable crossings covered by this regulation shall meet the following requirements:

(1) Underground pipelines and cables shall be buried at a depth below the stream bed sufficient to prevent exposure. For navigable streams, underground pipelines and cables shall be buried at a minimum depth of seven feet beneath the stream bed. For all other streams, underground pipelines and cables shall be buried at a minimum depth of five feet beneath the stream bed. Pipelines and cables shall be buried sufficiently into the banks to allow for a moderate amount of stream meander without exposure. The minimum depth may be waived if the owner or applicant demonstrates that the underground pipeline or cable is adequately protected against erosion.

(2) After installation, the channel and banks shall be restored to the natural elevations and configurations as nearly as possible. Armoring devices shall be installed when necessary to ensure bank stability. Surplus excavated material shall be disposed of in a manner that will not obstruct the channel or act as a levee.

(d) If any pipeline or buried cable crossing covered by this regulation does not meet the requirements of this regulation, or if the chief engineer determines that a pipeline or cable crossing may have an unreasonable effect on the public interest, public safety, or environmental interests, the right to perform the following shall be reserved by the chief engineer:

(1) Require a nongeneral permit pursuant to K.S.A. 82a-301 et seq., and amendments thereto; and

(2) amend, modify, or revoke the general permit issued in accordance with this regulation. (Authorized by K.S.A. 82a-303a; implementing K.S.A. 82a-303; effective Sept. 22, 2000.)

Articles 47 to 49. RESERVED

Article 50.—WATER TRANSFERS

5-50-1. Definitions. As used in these rules and regulations, unless the context clearly requires otherwise: (a) “Application” means the document, made on the prescribed form furnished by the chief engineer, to request a permit to transfer water. The application shall be filed in the office of the chief engineer as provided in K.S.A. 82a-1501 et seq., as amended.

(b) “Approval of application” means issuance of a permit to transfer water as defined in K.S.A. 82a-1501(a)(1), as amended. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1501; effective May 1, 1984; amended Dec. 27, 1996.)

5-50-2. Requirements for application. To be complete, a water transfer application shall show the following: (a) the name and mailing address of the applicant;

(b) the maximum quantity of water proposed to be transferred in a calendar year and the proposed maximum diversion rate;

(c) the location of the proposed point or points of diversion;

(d) the location of the proposed point or points of use;

(e) the proposed use made of the water;

(f) any economically and technologically feasible alternative source or sources of supply available to the applicant and to any other present or future users of the water proposed to be transferred. The water transfer application shall specify why this source of supply was selected over the alternative sources available;

(g) the proposed plan of design, construction and operation of any works or facilities used in conjunction with carrying the water from the point or points of diversion to the proposed point or points of use. The proposed plan shall be in sufficient detail to enable all parties to understand the impacts of the proposed water transfer;

(h) the estimated date for completion of the infrastructure and initial operation thereof;

(i) that the benefits to the state if the transfer is approved outweigh the benefits to the state if the transfer is not approved;

(j) that the proposed transfer will not impair water reservation rights, vested rights, appropriation rights or prior applications for permits to appropriate water;

(k) any current beneficial use of the water that is proposed to be transferred, including minimum desirable streamflow requirements;

(l) any reasonably foreseeable future beneficial use of the water;

(m) the economic, environmental, public health and welfare, and other impacts of approving or denying the transfer of water;

(n) any and all measures the applicant has taken to preserve the quality and remediate any contamination of water currently available for use by the applicant;

(o) the provisions of a revised management program adopted by a groundwater management district that are applicable to the proposed transfer whenever any of the proposed points of diversion are located within a groundwater management district;

(p) whether or not the applicant, and any entity to be supplied water by the applicant, have adopted and implemented conservation plans and practices that fulfill the following requirements:

(1) are consistent with guidelines developed and maintained by the Kansas water office, pursuant to K.S.A. 74-2608 and its amendments;

(2) have been in effect for not less than 12 consecutive months immediately before the filing of this water transfer application; and

(3) provide for a rate structure that encourages efficient use of water and results in conservation and wise, responsible use of water, if the transfer is for use by a public water supply system;

(q) the effectiveness of conservation plans and practices that have been adopted and implemented by the applicant and any other entities to be supplied water by the applicant;

(r) if applicable, population projections for any public water supply system that will be supplied by the water transfer, and the basis for those projections;

(s) the projected water needs of the applicant and of any other entities to be supplied water by the applicant, and the basis for those projections;

(t) plans for any environmental mitigation made necessary by the proposed water transfer;

(u) a list of other federal, state and local permits necessary to complete the proposed water transfer and the projected dates they will be obtained;

(v) the current per capita per day usage of any public water supply user to be supplied water by the applicant, and the current average per capita per day usage of other similar users in a region of

the state that is climatically similar. If the applicant's per capita per day usage exceeds the regional average, the applicant shall show why its per capita per day usage is reasonable.

(w) the projected per capita per day usage of any public water supply user to be supplied water by the applicant;

(x) a copy of the following contingently approved documents;

(1) a permit to appropriate water;

(2) an application for change in any or all of the following:

(A) the place of use;

(B) the type of use;

(C) point of diversion; or

(3) a contract to purchase water pursuant to the state water plan storage act;

(y) pursuant to K.A.R. 28-16-28b and K.A.R. 28-16-28d, the impacts of the proposed transfer on the water quality and designated uses of any stream that may be affected by the proposed transfer; and

(z) any additional factors that may be required by the chief engineer. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1503; effective May 1, 1984; amended Dec. 27, 1996.)

5-50-3. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1503; effective May 1, 1984; revoked Dec. 27, 1996.)

5-50-4. Emergency use. When a temporary emergency transfer of water has been approved, the chief engineer shall: (a) Require the applicant to compile and submit records, as necessary, regarding the daily rate and quantity of water transferred and any other information pertinent to the continued need for emergency transfer; and

(b) require the person requesting the transfer to consider alternate sources of water so the continued transfer will not be necessary. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1502; effective May 1, 1984; amended Dec. 27, 1996.)

5-50-5. Emergency transfer of water. If the emergency causing the necessity for the transfer of water continues beyond one year, the person requesting the transfer may only file another new application for transfer for emergency use. This new application shall state the need for the water and the reasons why the need for transfer of water still exists and cannot be supplied by an

alternate source. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1502; effective May 1, 1984; amended Dec. 27, 1996.)

5-50-6. Authority of the chief engineer.

All emergency transfers of water shall be reviewed by the chief engineer to determine whether the applicant complied with the terms, conditions, and limitations of the emergency transfer approval. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1503; effective May 1, 1984; amended Dec. 27, 1996.)

5-50-7. Filing an application. Unless this requirement is waived by the chief engineer for good cause, a water transfer application shall not be considered complete until one of the following has been approved contingent upon receiving a permit to transfer water: (a) a new application to appropriate water pursuant to the Kansas water appropriation act (KWAA), K.S.A. 82a-701 *et seq.*;

(b) an application for a change in any or all of the following:

- (1) point of diversion;
- (2) place of use; or

(3) use made of water filed pursuant to the KWAA; or

(c) a contract for the purchase of water pursuant to the state water plan storage act, K.S.A. 82a-1301, *et seq.* (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1503; effective Dec. 27, 1996.)

5-50-8. Selection of hearing officer. (a)

The panel shall mail notices to, and request nominations for a hearing officer from:

- (1) the applicant;
- (2) entities in the area or basin where the potential point or points of diversion are located; and
- (3) the commenting agencies.

(b) The panel shall also publish one notice in the Kansas register requesting nominations for a hearing officer. The panel shall allow 30 days following the notice for the nominations to be submitted.

(c) After the 30-day notice period has expired, the panel shall meet to consider the nominations and select an independent hearing officer. (Authorized by K.S.A. 82a-1506; implementing K.S.A. 1995 Supp. 82a-1501a; effective Dec. 27, 1996.)